THEATRE CATALOG

13th
ANNUAL
ALL NEW
EDITION

1955-56

Complimentary Copy

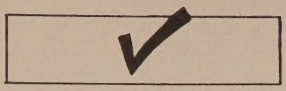
ISSUED TO ALL -

Theatre Supply Dealers

THRUOUT THE WORLD, FOR
COUNTER AND SALES USE.

All Theatre Supply Dealers are commissioned to accept Orders for this and past Editions --- at the Domestic and Foreign rates indicated on the fly leaf.

MAY WE BE OF HELP?



Check the items which you are interested in purchasing and on which you need additional information . . . we will get it into your hands quickly and completely from reliable dealers and manufacturers! 55-56

FILL IN : FOLD : SEAL : STAMP AND MAIL : NO COST : NO OBLIGATION

- ☐ Advertising Accessories
- ☐ Air Conditioning Equipment
- ☐ Amplifiers
- ☐ Amplifier Tubes
- ☐ Architects, Theatre
- ☐ Beverages
- ☐ Beverage Cups
- ☐ Beverage Dispensers
- ☐ Bookkeeping Systems
- ☐ Booth Supplies
- ☐ Boxoffices & Equipment
- ☐ Brooms & Brushes
- ☐ Building Materials
- ☐ Carbons
- ☐ Carpet Cleaning Compound
- ☐ Carpet Padding
- ☐ Carpets
- ☐ Cash Control Equipment
- ☐ Changeovers
- ☐ Collars, Reversible
- ☐ Color Wheels
- ☐ Condensers
- ☐ Confections
- ☐ Concession Intercom System
- ☐ Concession Stands
- ☐ Concession Stand Equipment
- ☐ Crowd Control Equipment
- ☐ Curtain Controls & Track
- ☐ Curtains
- ☐ Date Books
- ☐ Decoration
- ☐ Deodorants
- ☐ Dimming Equipment
- ☐ Display Frames
- ☐ Draperies
- ☐ Drapery & Wall Fabrics
- ☐ Drinking Cups
- ☐ Drinking Fountains
- ☐ Drive-In Theatre Design
- ☐ Exciter Lamps
- ☐ Exterminator Supplies & Services
- ☐ Fencing (Drive-In)
- ☐ Film Cases & Cabinets
- ☐ Filters, Colored Glass
- ☐ Fire Extinguishers & Hose
- ☐ Fireproofing
- ☐ Fire Shutters
- ☐ Floodlights
- ☐ Flooring Materials
- ☐ Fluorescent Paint & Lighting
- ☐ Food Preparation Equipment
- ☐ Footlights
- ☐ Fronts
- ☐ Furniture
- ☐ Gelatines
- ☐ Generators, Motor
- ☐ Glass, Structural
- ☐ Hand Dryers
- ☐ Hand Rails
- ☐ Hearing Aids
- ☐ Heaters (Car)
- ☐ Heating Equipment & Systems
- ☐ Ice Cream Dispensers
- ☐ Ice Cream Machines
- ☐ Insect Control Systems
- ☐ Insulation, Acoustical
- ☐ Insulation, Thermal
- ☐ Janitor Supplies
- ☐ Ladders
- ☐ Lamps, Incandescent or Fluorescent
- ☐ Landscaping (Drive-In)
- ☐ Lenses, Projection
- ☐ Lighting
- ☐ Lighting Controls
- ☐ Lighting, Emergency
- ☐ Lighting Fixtures
- ☐ Lobby Hardware
- ☐ Marquees
- ☐ Mats, Cocoa
- ☐ Mats, Rubber
- ☐ Metalwork, Ornamental
- ☐ Mirrors
- ☐ Murals
- ☐ Playground Equip. & Rides
- ☐ Plumbing Fixtures
- ☐ Popcorn
- ☐ Popcorn Bags & Boxes
- ☐ Popcorn Machines
- ☐ Popcorn Warmers
- ☐ Popping Oils
- ☐ Pre-Fab Arches & Trusses
- ☐ Pre-Fab Fronts
- ☐ Premium Distributors
- ☐ Projection Lamps
- ☐ Projection Machines
- ☐ Projection Parts
- ☐ Projection, Rear View
- ☐ Public Address Systems
- ☐ Ramp Lights, Identification Panel (Drive-In)
- ☐ Rectifiers
- ☐ Rectifying Tubes or Plates
- ☐ Reels
- ☐ Reflectors
- ☐ Refrigeration Units (Confection)
- ☐ Rewinders
- ☐ Rheostats
- ☐ Safes, Burglarproof
- ☐ Sanitary Supplies & Equipment
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- ☐ Screen Frames
- ☐ Screens, Wide (Roofed and Drive-In)
- ☐ Screen Resurfacers
- ☐ Screen Towers (Drive-In)
- ☐ Seat Cushions
- ☐ Seat Upholstering Fabrics
- ☐ Seats
- ☐ Sign Letters
- ☐ Signal Systems (Drive-In)
- ☐ Signs, Admission
- ☐ Signs, Directional and Exit
- ☐ Signs (Front)
- ☐ Slides
- ☐ Soda Fountains
- ☐ Sound Equipment
- ☐ Sound Equipment Service
- ☐ Sound, Stereophonic
- ☐ Speaker Coils
- ☐ Speaker Posts (Drive-In)
- ☐ Speakers & Horns
- ☐ Speakers (In-Car)
- ☐ Speaker Cords, Straight & Coiled (Drive-In)
- ☐ Spotlights
- ☐ Stage Hardware
- ☐ Stage Lighting
- ☐ Stage Rigging
- ☐ Stair Treads
- ☐ Stereopticons
- ☐ Switchboards
- ☐ Telephones, Intercom.
- ☐ Television, Theatre
- ☐ Temperature Controls
- ☐ Theatre Games
- ☐ 3-D Equipment (Roofed and Drive-In)
- ☐ Tickets
- ☐ Ticket Choppers
- ☐ Ticket Issuing Machines
- ☐ Tile (Structural & Ornamental)
- ☐ Toiletroom Accessories
- ☐ Trailers, Feature & Special
- ☐ Turnstiles
- ☐ Underground Cable (Drive-In)
- ☐ Uniforms
- ☐ Urns (Sand)
- ☐ Vacuum Cleaners
- ☐ Vacuum Systems (Stationary)
- ☐ Vending Machines
- ☐ Vending Concessionaire
- ☐ Ventilating Systems
- ☐ Wall and Ceiling Panels
- ☐ Wall Paper
- ☐ Work Lights

OTHER THAN LISTED

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☐ Manager ☐ Purchasing Agent
☐ Maint. Eng. ☐ Supply Dealer

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THEATRE or COMPANY _____

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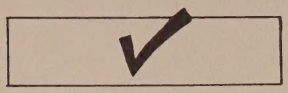

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- ☐ Brooms & Brushes
- ☐ Building Materials

- ☐ Carbons
- ☐ Carpet Cleaning Compound
- ☐ Carpet Padding
- ☐ Carpets
- ☐ Cash Control Equipment
- ☐ Changeovers
- ☐ Collars, Reversible
- ☐ Color Wheels
- ☐ Condensers
- ☐ Confections
- ☐ Concession Intercom System
- ☐ Concession Stands
- ☐ Concession Stand Equipment
- ☐ Crowd Control Equipment
- ☐ Curtain Controls & Track
- ☐ Curtains

- ☐ Date Books
- ☐ Decoration
- ☐ Deodorants
- ☐ Dimming Equipment
- ☐ Display Frames
- ☐ Draperies
- ☐ Drapery & Wall Fabrics
- ☐ Drinking Cups
- ☐ Drinking Fountains
- ☐ Drive-In Theatre Design

- ☐ Exciter Lamps
- ☐ Exterminator Supplies & Services

- ☐ Fencing (Drive-In)
- ☐ Film Cases & Cabinets
- ☐ Filters, Colored Glass
- ☐ Fire Extinguishers & Hose
- ☐ Fireproofing
- ☐ Fire Shutters
- ☐ Floodlights
- ☐ Flooring Materials
- ☐ Fluorescent Paint & Lighting
- ☐ Food Preparation Equipment
- ☐ Footlights
- ☐ Fronts
- ☐ Furniture

- ☐ Gelatines
- ☐ Generators, Motor
- ☐ Glass, Structural

- ☐ Hand Dryers
- ☐ Hand Rails
- ☐ Hearing Aids
- ☐ Heaters (Car)
- ☐ Heating Equipment & Systems

- ☐ Ice Cream Dispensers
- ☐ Ice Cream Machines
- ☐ Insect Control Systems
- ☐ Insulation, Acoustical
- ☐ Insulation, Thermal

- ☐ Janitor Supplies

- ☐ Ladders
- ☐ Lamps, Incandescent or Fluorescent
- ☐ Landscaping (Drive-In)
- ☐ Lenses, Projection
- ☐ Lighting
- ☐ Lighting Controls
- ☐ Lighting, Emergency
- ☐ Lighting Fixtures
- ☐ Lobby Hardware

- ☐ Marquees
- ☐ Mats, Cocoa
- ☐ Mats, Rubber
- ☐ Metalwork, Ornamental
- ☐ Mirrors
- ☐ Murals

- ☐ Playground Equip. & Rides
- ☐ Plumbing Fixtures
- ☐ Popcorn
- ☐ Popcorn Bags & Boxes
- ☐ Popcorn Machines
- ☐ Popcorn Warmers
- ☐ Popping Oils
- ☐ Pre-Fab Arches & Trusses
- ☐ Pre-Fab Fronts
- ☐ Premium Distributors
- ☐ Projection Lamps
- ☐ Projection Machines
- ☐ Projection Parts
- ☐ Projection, Rear View
- ☐ Public Address Systems

- ☐ Ramp Lights, Identification Panel (Drive-In)
- ☐ Rectifiers
- ☐ Rectifying Tubes or Plates
- ☐ Reels
- ☐ Reflectors
- ☐ Refrigeration Units (Confection)
- ☐ Rewinders
- ☐ Rheostats

- ☐ Safes, Burglarproof
- ☐ Sanitary Supplies & Equipment
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- ☐ Tile (Structural & Ornamental)
- ☐ Toiletroom Accessories
- ☐ Trailers, Feature & Special
- ☐ Turnstiles

- ☐ Underground Cable (Drive-In)
- ☐ Uniforms
- ☐ Urns (Sand)

- ☐ Vacuum Cleaners
- ☐ Vacuum Systems (Stationary)
- ☐ Vending Machines
- ☐ Vending Concessionaire
- ☐ Ventilating Systems

- ☐ Wall and Ceiling Panels
- ☐ Wall Paper
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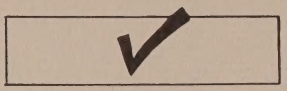

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- ☐ Ladders
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- ☐ Underground Cable (Drive-In)
- ☐ Uniforms
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- ☐ Vacuum Cleaners
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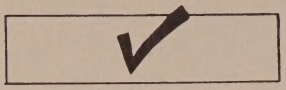

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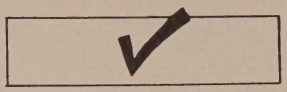

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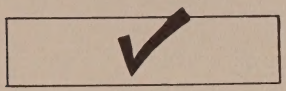

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EDITORIAL FOREWORD

Despite some uncomfortable growing pains, motion picture theatres throughout the world have, for the most part, successfully adapted to some form of wide screen film presentation. And in almost every area this change has met with the approval of the ticket-purchasing public.

Most revolutions follow a definite fixed pattern, whether they are of a major or minor nature. This holds true for political, economic, social or industrial changes. There is always the initial upheaval with its confusion, lack of decision and struggle for power. Next, the elimination of the weak and inferior elements, and consolidation by the new leaders. What usually follows then is a period of improvement and modifications, and quite often sowing of the seeds which will eventually lead to the next upheaval. This progress-making cycle certainly seems to be functioning in the case of wide screen systems.

Some three years ago 3-D, Cinerama, and CinemaScope violently overthrew the long accepted thinking and theories on film making, projection and sound. Few exhibitors, producers, or manufacturers who staggered through this hectic stage, will disagree that confusion and misdirection were the order of the day. Following its natural course, the less practical or appealing systems were cast aside or given minor roles in the overall picture, and gradually CinemaScope became the most widely accepted screen form. Theatre operators had an opportunity to install the proper equipment and learn how to best utilize the new tools which had been put at their disposal. They also had a chance to return to a more normal period of operation. Today it appears as if we are getting ready to enter the next stage of the cycle. Currently there is a move to make improvements and modifications in wide screen presentation, and a casting about once again for new and dramatic forms.

The most significant changes being made today concern themselves with film size. Enlarging the negative in order to get more information on the film appears to be gaining acceptance on all fronts. VistaVision was one of the first to utilize this thinking by employing a horizontal camera in order to get a negative more than twice the size of the normal 35mm frame, then turning it 90 degrees and printing down to standard release print size. Therefore, when the film was blown up to wide screen proportions there was a great reduction in grain, less distortion, and improved clarity. Paramount, who introduced VistaVision, then took the next logical step and arranged for the manufacture of projection equipment able to utilize the full horizontal frame, and installed it in a few key theatres.

A more recent development in the same vein was the announcement by 20th Century-Fox that CinemaScope films would be photographed with cameras equipped to handle a 55mm negative that would be reduced to standard CinemaScope release dimensions. Here again the move was made to improve picture clarity and definition, and plans to equip a few theatres with special projection equipment to show prints using the full 55mm size were also revealed.

Late in 1955 the Todd-AO process was unveiled with its all-purpose projector capable of handling the 70mm Todd-AO print, and all other intermediate film sizes, down to 35mm, by making simple changes on the mechanism.

MGM has announced that it will make available 65mm films, and it is very likely that by the time this is being read others will have entered the supersize derby.

What this widening of the film will mean at the moment is a general improvement of picture quality in standard release 35mm reduced prints, with no need for the exhibitor to purchase any additional equipment. However, it also seems to indicate that eventually a size other than 35mm will become the standard of the industry. Since such a change would probably require a completely new projection system, it is anyone's guess as to just when this will come about.

The matter of theatre sound is still in a state of flux. Although there appears to be general agreement that multi-track magnetic stereophonic sound gives the best quality, many exhibitors hold that the public is not too aware of this fact, and therefore they have not accepted this form of sound reproduction with the same zeal as they have the wide screen. Efforts are being made to develop some sort of compromise system, and the next 12 months should see many theatres using combination optical-magnetic prints.

Indoor theatre construction appears to be extremely active in many nations, although the building of roofed theatres in this country is still a far cry from recent years. The new houses are generally striking in their design, sturdily constructed and fully equipped with the latest projection and sound equipment. There also appears to be more attention than ever being given to patron service areas, such as lounges, lobbies and rest rooms.

The drive-in form of exhibition continues to be an ever expanding type of operation in the United States. The outdoor theatre is also gradually receiving wider acceptance in many other parts of the world, and there should be a decided increase in drive-in theatre construction on an international scale.

1955-56

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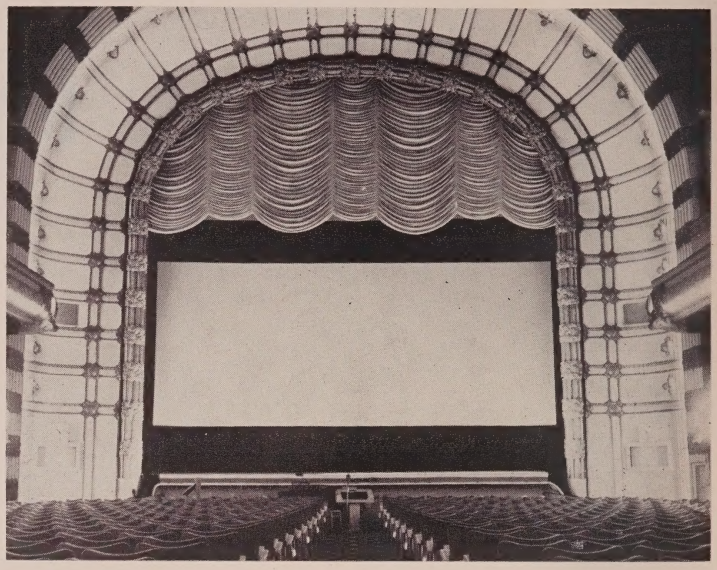
DESIGN

1955-56

World Theatre Survey

Study of General Conditions and Theatre Building Trends Currently Found in Various Nations Throughout the World

BRIEF: *For the second consecutive year . . . THEATRE CATALOG is presenting a survey of theatre conditions in various parts of the world . . . This is being done because we believe that a greater interchange of ideas and general information . . . will help to improve the motion picture industry in all nations . . . This article attempts to give the reader an indication of the activities and local conditions to be found in some 16 countries . . . The latest new theatres and major remodeling jobs are described in words and pictures . . . and permit a comparison of trends to be found in such areas . . . as Switzerland . . . Brazil . . . Ceylon . . . South Africa . . . etc. . . . One of the many subjects covered is the development . . . or lack of development . . . of the drive-in theatre . . . After reading this survey . . . it might be a lot easier to understand why things are done in certain ways in a foreign land.*



THE FORUM Theatre in Liege, Belgium, is considered to be the largest house in that country with a seating capacity of 2900. The theatre has been remodeled for CinemaScope film presentations.

Although the peoples of the world speak different languages, have different backgrounds, economic, political, and social viewpoints, the motion picture seems to be one of the few remaining common denominators. The power of the motion picture to disseminate entertainment and information to the masses is still unmatched by any other visual medium.

By now most of the recent innovations in projection and sound techniques have been introduced to most countries, with the resultant changes in theatre construction and remodeling.

In order to learn what the reaction to such things as CinemaScope Vista-Vision, stereophonic sound, etc. has been, it was decided to conduct an international survey. Reports came in from 16 nations in all parts of the globe, and one general theme ran through all of them; the future looks bright.

Assembled here, in words and pictures, is a report on what theatre activities there are in nations from Belgium to Venezuela; comments on censorship; native film production; remodeling trends; governmental restrictions, etc.

There is much that could be learned from what is found on this, and the following pages.

BELGIUM

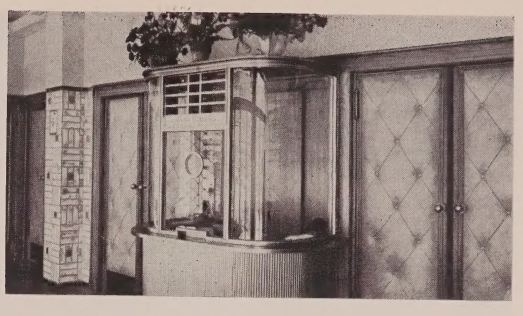
Belgium is a small country. With its 11,750 square miles area and nearly nine million inhabitants, Belgium has relatively the densest population of the world. There are 1500 35 mm theatres in operation. The average seating capacity for normal halls is 600 to 800.

Nevertheless, in the largest cities such as Brussels, Antwerp, and Liège, the number of seats varies between 900 and 2000, with a few theatres up to 2500 to 3000 seats. One can say that Belgian exhibitors have always followed very closely all progress made in theatre business, either as regards building and fitting, or as regards projection and sound equipment. Belgian theatres look rich and comfortable. Films from practically all countries are shown here, but mainly they are the American, French, British, German and Italian. Belgium has no very important film industry of its own. However, since two years ago, a government detaxation on films produced in the country led to the making of numerous documentary films. Some of them have already been seen in the United States, such as "Rubens" and "de Renoir A Picasso." Feature productions are scarce due to the small release possibilities outside.

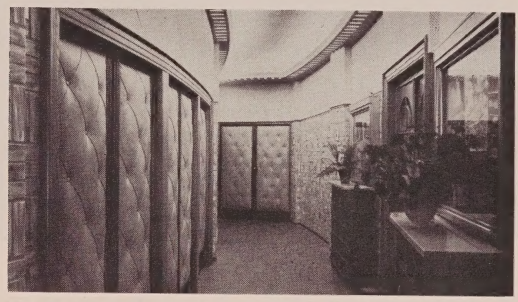
Drive-in theatres do not exist owing to the weather conditions and also the late sunset (9 p.m.) in Summer.

New Theatres

New theatres are still being erected, but their actual larger number is a reason for limiting construction. Old



THE ELDORADO, in Charleroi, Belgium, seats 1100. The theatre has been remodeled for wide screen offerings, and tastefully redecorated and furnished.



theatres are rather entirely remodeling with modern shapes adapted to the new projection systems. The new developments in film technique have been quickly accepted because Belgian exhibitors are progressive, and have to take competition into account.

It must be remembered that the first MGM wide screen demonstration in the world was given at the Forum Theatre in Liège (3000 seats).

There are no restrictions as regards reconstruction or erection of theatres. Censorship only acts for films which are classified in two categories: for adult only, or for both adults and children under 16.

The exhibitor himself takes the responsibility of the morality of the film shown. A legal action against him only takes place if anyone officially complains to the police, which seldom happens.

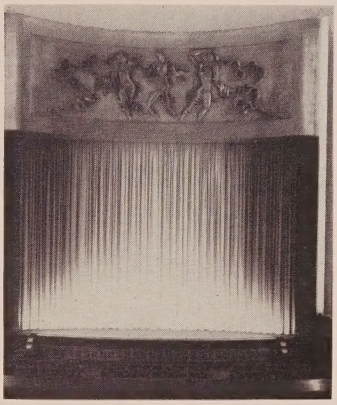
Business Flourishing

The situation in theatre business may be considered in Belgium as being good and an even flourishing concern.

Serious fires causing numerous casualties have recently led the control services to become more exacting and regulations, which so far had not been too strictly adhered to are now taking their full importance: this means a lot of concrete to be put in existing theatres to replace wooden staircases, floors and stages. This means also that modernization of booth equipment is slowed down, at least for the time being.

BRAZIL

Due to daily increasing inflation, the building of new theatres has slowed down in Brazil during the last 12 months.



THE METROPOLE, in Brussels, Belgium is looked upon as one of the finest houses in the country.

However, there is a big trend towards modernizing existing projection and sound equipment with the industry's latest developments. Every week there is some "re-opening" scheduled with wide screen, stereophonic sound, or both.

Optimistic

No other industry in Brazil is more optimistic, and also more hard beaten than the film industry. Admission prices were fixed several years ago and are still maintained by a Price Control Board. They are the lowest admission prices all over the world. First run houses charge 10 cruzeiros (eight U. S. cents) which includes Cr$2,10 taxes. Children and students pay half price. Under special authorization, theatres exhibiting films with stereophonic sound and a picture size of not less than 30.2 feet wide, are now allowed to charge 18 cruzeiros also, including taxes. This special authorization has lately been under fire within the Price Control Board and chances are it will be revised.

Because of the present import situation, theatre equipment is costing as high as Cr$320 to the U. S. dollar, against an official rate of 20 cruzeiros and a free market rate of 80 to the dollar. With admission prices frozen and equipment costs at the highest peak of all times, the exhibitor still keeps his optimism and is modernizing his theatres.

Latest Developments

Perspecta and magnetic sound are the most popular latest developments. Pictures with panoramic screens only are also widely used. VistaVision had its demonstration in August last year, and is now scheduled to be released in the next few weeks with great expectation. 3-D had a great time, but it is now out of the market. Spectacles were its big handicap. The throw-away type was too expensive to be used, and the permanent type had the inconveniences of rental fees, control and some lack of confidence of the public.

During the last years, helped by low prices, European theatre equipment has been imported and sold in Brazil. German, English, French and Italian equipments are now used. Many European films are also imported. The best liked are the Italian with several of them obtaining a big boxoffice success.

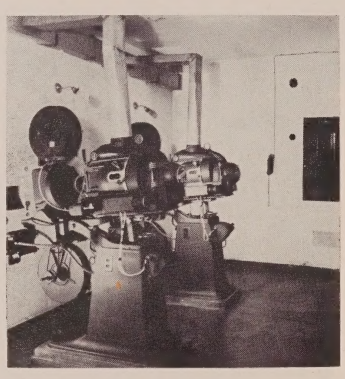
ONE OF the most popular and modern theatres in Brazil is the Azteca Theatre in Rio de Janeiro. As can be seen from the various photographs on this page the theatre utilizes a Mexican style of architecture inside and out.

The projection equipment is of the most modern type available, and includes Ashcraft projection arc lamps, Century projectors, and Westrex sound systems. The Azteca is the only theatre in Brazil to use Mexican style.

No Drive-ins

There are no drive-in theatres in Brazil. Although some consideration of the idea and plans were made in Rio, Sao Paulo and Porto Alegre, the three most important cities of the country, nothing definite developed. It seems that Brazil will not have drive-in theatres for quite some time.

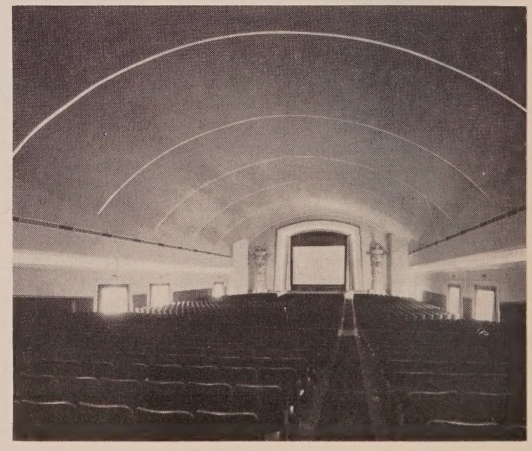
Four years ago, productions of feature films had a very good start in Brazil. Four important studios were built and very well equipped. Atlantida is Rio, Maristela, Multifilmes and Vera Cruz in Sao Paulo. Today their activities are reduced to a minimum. Atlantida was destroyed by a fire and never again produced a film. Vera Cruz had to be closed because of very heavy operating expenses. Multifilmes and Maristela are doing very little.



There are a dozen and one small producers of weekly local newsreels. It is compulsory by law for theatres to exhibit these newsreels every night. It is also compulsory to run one Brazilian feature picture for every eight pictures exhibited and this picture should have the same playing time as the best foreign product. With today's small production it is questionable if theatres can keep complying with this law.

CEYLON

There are approximately 150 to 200 theatres on the Island of Ceylon, which



THE LIBERTY is said to be the most modern theatre in Ceylon, and is located in the city of Colombo. This deluxe theatre is air-conditioned.

has a population of approximately eight million people. Almost every important town in the island has one or more theatres; and the out of the way places are covered by touring cinemas which are on the move right through the year —staying in one location for approximately three or four months.

The principal town — Colombo, the capital of Ceylon, can boast of the most modern cinemas in the Island. These include houses that screen both Western and Oriental pictures exclusively.

Modern Houses

The most modern among theatres in Colombo is the Liberty Theatre recently opened. This theatre is completely air-conditioned, and is equipped with the latest Westrex sound projection equipment, and affords maximum comfort.

At the time of writing there is no sign of more new theatres coming up in Colombo. However, there is the likelihood of more cinemas being built in the provincial towns, outside Colombo, which are fast improving.

Three-D pictures at first caused excitement, but this has now gradually died down. Furthermore, people protested at the discomfort of having to wear viewers. CinemaScope, on the other hand, has caught on very well, and has become very popular down here.

Native Production

Ceylon depends mainly on the U.S.A. and England for Western pictures, and on India for Eastern pictures. In recent years enterprising parties in Ceylon have produced pictures in the native language of Ceylon, and these have met with great success.

So far no one has given serious thought to drive-in theatres in Ceylon, but it may not be long before such a venture is undertaken.

The film industry in Ceylon is not hard pressed by government restrictions, and at the time of writing the industry enjoys a good time and there is no fear of adverse conditions in the immediate future.

CUBA

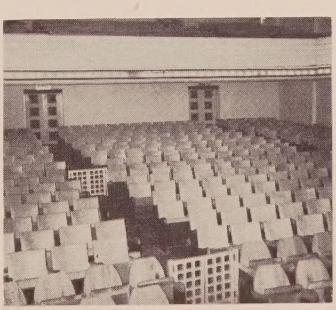
New theatre construction in Cuba has been slow during the past year. Aside from the Arte y Cinema, La Rampa, an art theatre which was opened at the commencement of this year, little construction is in process, except for a new theatre in Santa Clara, which will be completed shortly. It will comprise 2200 seats, and is an auditorium style theatre including air conditioning equipment and the latest theatre techniques. Westrex stereophonic equipment, both magnetic (four channel) and Perspecta, with Century watercooled projectors and Ashcraft Hyrdo-Arc Lamps, together with a Hi-Lux Screen is being installed. This theatre, together with a hotel in the same building, is the largest project of this nature to be constructed in Cuba in recent years and is financed by Ofelio Ramos, a leading businessman of that city of more than 100,000 population.

Remodeling

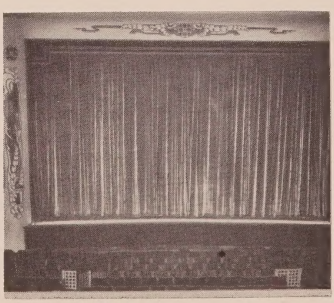
Several theatres have been modernized, among which the Trianon in Havana, of the Circuito Carrera, is the best example. The interior of this theatre was completely remodeled. New seats were also installed and a rebuilt stage for CinemaScope and wide screen presentation. Westrex magnetic stereophonic equipment was installed, and a unique method of hiding the auditorium speakers behind the new false walls was incorporated. This theatre became the release theatre in Havana for 20th-Fox CinemaScope presentations. A new theatre is also being constructed in Cienfuegos for neighborhood use by Trelles y Martinez, which will seat 1200. A neighborhood theatre in the suburbs of Havana, seating 1400 was recently opened, the Continental, with Westrex sound, Century projectors and Ashcraft Lamps.

Number of Theatres

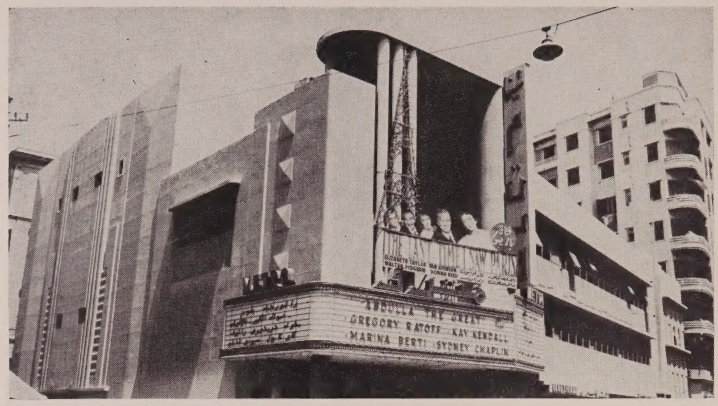
At the end of 1955 there were a total of 546 theatres in Cuba, which figure includes several that are presently closed or in the process of closing. This number comprises only theatres showing 35 mm pictures with a total seating capacity of approximately 373,500. The latest figures for theatres equipped for CinemaScope showing are as follows: 158 optical, 27 magnetic 4 track, seven Perspecta and seven theatres with both magnetic and Perspecta stereophonic sound. The new wide screen techniques have increased the admissions appreciably and have held up fairly well despite the inroads created by television, as there are five television stations alone operating in Havana. Cuba is considered to have, next to the United States, more television sets per capita than any other country in the world. Economic conditions in Cuba have also affected the theatre business since sugar prices are at a very low level, and sugar is the basic commodity of Cuba. An attempt at diversification is being made and rice growing, mining, and oil exploration will undoubtedly benefit the Cuban economy. There are no exchange problems as the Cuban peso is pegged to the dollar

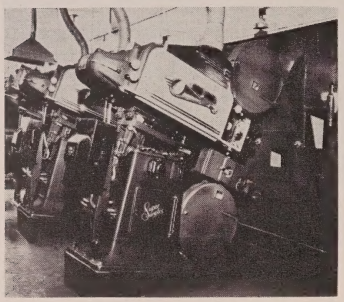


WOODEN chairs are used throughout the auditorium of the Liberty Theatre, as seen here.



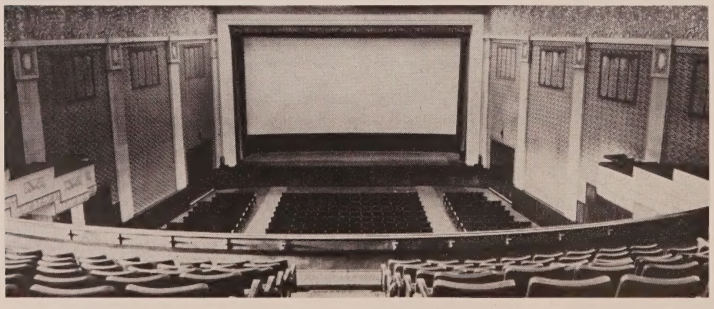
The Liberty has been equipped with a wide screen and the latest in projection equipment.





THE Cinema Metro, Alexandria, Egypt (above) is an excellent house with a seating capacity of 1530. Cinema Metro, Cairo, Egypt, right, is another first class theatre and is equipped with modern Westrex projection and sound equipment devices.

THE CINEMA AMIR, Alexandria, Egypt, is one of the finest in the country. Seen (left) is a view of the cafeteria which is well equipped. The main lobby (right) is spacious and attractively designed.



ANOTHER leading theatre in Alexandria, Egypt, is the Cinema Rialto. Seen is a view of the CinemaScope screen as viewed from the balcony. This 1200 seat house is equipped with Westrex sound systems.

and mostly American products are consumed in Cuba.

First Drive-in

The first drive-in theatre in Cuba has been promoted and ground is now being broken for it in the outskirts of Havana. It will have a capacity for 750 cars, and will be operated by Cines Aereos, S.A. a Cuban company. It will have a 100 foot screen and will offer all of the latest drive-in techniques, including all of the new developments in sound and projection. Drive-in theatre development here has been retarded due to the fact that ground leases were looked upon unfavorably and the cost of a suitable plot of ground has become prohibitive here. Ground had to be purchased by the new drive-in company so that the cost will approximate that of a new closed-in theatre. As Cuba's climate can be described as moderately warm and humid and, on the whole agreeable, the new drive-in theatre should be successful as it can hold year-round presentations. The city of Havana with approximately a million inhabitants should be able to support a theatre of this type and this will probably be a forerunner of similar drive-in theatres.

EGYPT

Motion picture entertainment is becoming very popular in Egypt, where the number of theatres is growing constantly year after year.

There were 184 theatres in 1947, having a seating capacity of 189,000 seats, while in 1949, this figure went up to 244, and at the end of 1954 it was raised to 354 theatres with a seating capacity of 325,000 seats. In addition there are about 100 small theatres spread out in remote areas and small villages, equipped with 16 mm equipment.

No Restrictions

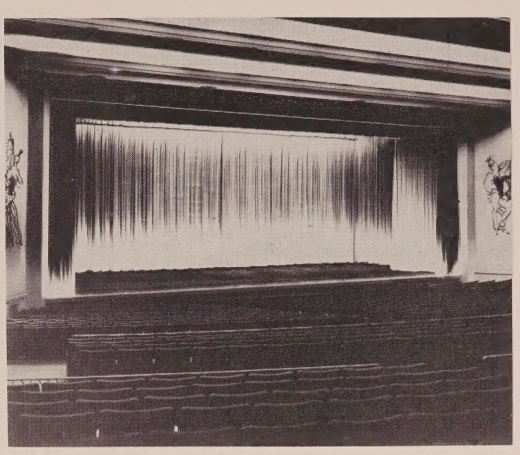
There are no Government restrictions on the construction of theatres. There are no drive-ins in Egypt, but 25 per cent of the theatres are outdoor garden cinemas, for use on clear summer evenings, of which there is an average of over 200 per year.

New screen presentations, and particularly CinemaScope, have been accepted by the public with added interest in cinematographic showings. Statistics show a remarkable increase of theatre attendance as compared with the last two years, and it is estimated that the total number of theatre admission tickets in a year will reach the figure of 100 millions, in a population of 22 millions. Total gross in 1954 was £.3,500,000 — (approximately $10,000,000).

The number of theatres remodeled and equipped for CinemaScope projection is 120, and it is estimated that at the end of 1955, this figure will be 200.

Although 80 per cent of the theatres show locally produced Arabic films, in the large cities (Cairo 117 theatres, Alexandria 50 theatres), American films represent the higher proportion with an average screen time of over 65 per cent. Other films shown are Italian, French, Greek, English, Indian, etc.

A VIEW of the bar in the lobby of the Cinema Diana Palace, Cairo, Egypt. This modern 1570 seat house has the latest projection and sound equipment.



THE CINEMA Kasr el Nil, Cairo, Egypt, is seen in a view of the stage and the auditorium. The theatre has been equipped for wide screen by Westrex.

Production

There are three major motion picture studios and five smaller ones, which produced in 1954, 84 films in Arabic language and in black and white. However, viewing the preference shown by the public and exhibitors to the new developments, the local producers have decided to produce films in color and CinemaScope, in order to protect the local film industry from an inevitable decline.

The Government authorities will assist the studios in this connection by providing prizes, loans, and other forms of protection for the local industry.

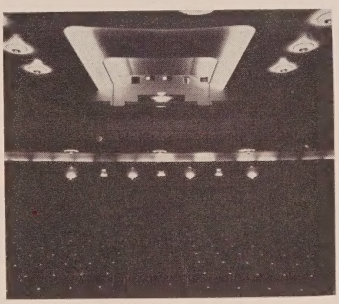
Sound and projection equipment is being imported into Egypt from the U.S.A. and Europe. The Westrex Company, East has in addition, service and spare parts supply centers in Alexandria and Cairo, filling the needs of the whole country.

ENGLAND

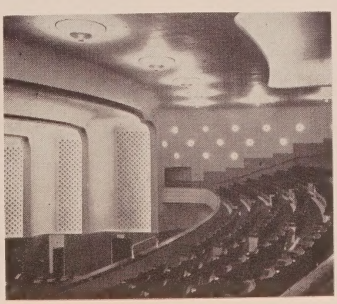
The motion picture industry in the United Kingdom is in a state of uncertainty. Exhibitors are inclined to feel that CinemaScope and VistaVision may not be the final word in new developments, and that something else may be just around the corner. Many of them still say that they cannot afford any of the new developments until they get some relief from the crushing burden of entertainment taxes, which is estimated to amount to 35 per cent of the gross takings. Most exhibitors are apprehensive about the possible effect on the boxoffice of commercial television, due to start here last September. There is confusion among exhibitors as to what steps should be taken to secure a reduction in taxation, a situation which is not helped by the absence of the Rank interests from the councils of the Cinematograph Exhibitors' Association.

State of Uncertainty

In view of the uncertainty, it is not strange that little advantage has been taken of the removal of building restrictions to put up new theatres. Another obstacle is the three-fold increase in building costs since 1938. A few theatres are going up in new housing areas, some that were started before the war and never finished are now being completed, and 20th Century-Fox is reported to be considering the construction of at least one theatre, but there is very little activity in building or remodeling. Drive-in theatres, of course, are not practicable here. In general, the opinion is that it is not possible under present conditions to obtain a satisfactory return from investment in new theatre construction today.



THE REGAL Theatre, Aberdeen, England, is one of the few theatres in that country which has equipped itself for the showing of the latest wide screen systems with stereophonic sound.



Slow Recovery

British exhibitors have not yet recovered the ground lost during 15 years of wartime and postwar restrictions on expenditure. Far too many theatres have not bought new seats or new carpets, and have not seen painters and decorators since before 1939. A surprising number of theatres are still using the original sound equipment they bought in 1929 and 1930, even to the extent of retaining storage batteries for the low voltage supply.

To date, some 450 theatres, or less than 10 per cent of the total, have installed stereophonic sound, and perhaps another 1000 have equipped themselves with anamorphic lenses and wide screens. About 90 per cent of the stereophonic installations are of the 4-track magnetic type; there has been little interest to date in Perspecta sound, although British-made integrators are on the market. Further increase of the total of magnetic stereophonic installations depends upon a better supply of product.

FRANCE

The general condition of the film industry in France is satisfactory in all its phases, whether it be production, distribution, exhibition or studio and theatre equipment, and the industry at the present time is showing considerable activity.

As regards new theatre construction and complete remodeling of auditorium, lobbies, etc., there are many new ones which are under construction, or which are to be constructed. Also, there are numerous theatres which are undergoing complete renovation and remodeling. As a rule, this construction and rebuilding work covers important theatres in which have already been or will shortly be installed equipment of the latest and most modern technical improvements. The cinema architects are putting forth their genius towards the building and remodeling of theatres which are not alone attractive to the eye, but also

take into account improved comfort for the spectator.

The new developments in projection and sound, as well as in wide screens have been received very favorably by a portion of the French exhibitors who, from the very beginning, acquired equipment of the most recent type. There were other theatre owners who adopted a sort of a "middle of the road" attitude and who are coming around little by little, and are gradually installing stereophonic sound equipment or wide screens, and in some instances both stereophonic sound and wide screens. There are other exhibitors who have preferred the "wait and see" conception because they consider that the ratio for the screens would become shortly uniform and that the stereophonic sound systems will be of a standard type.

No Drive-in Construction

The only activity which has not been attempted in France is the drive-in theatre type. Several projects were under consideration and study, but nothing was done to carry them out. There are several outdoors theatres in the south of France which operate during the Summer season and the equipment for which is taken from nearby indoor theatres which are closed down during this period.

In the past year, some old cinemas have closed their doors and were transformed into other forms of commercial activity having no connection with the theatre industry. Their number, however, is small and much lower when compared to the number of new cinemas in the course of construction or now operating.

The French Government does not put any restriction at all on the reconstruction or building of theatres.

In the producing and motion picture theatre industry, the general consensus of opinion appears to be optimistic about the future of the film business.

INDIA

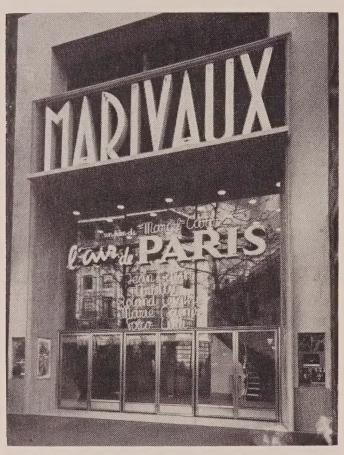
There are to date approximately 3000 theatres in India which number is insufficient for a population of 360 million. The virtual ban on the construction of new cinemas by the State Government still continues. However, a large number of theatres has been remodeled and their stage prosceniums widened to accommodate new wide screens. Worthy of note are the three theatres taken over by 20th Century-Fox — the New Empire, Bombay; Plaza, New Delhi; and Elite, Calcutta. All these theatres are air conditioned de luxe houses equipped with three machine Westrex sound and projection systems.

A large percentage of theatres in India are equipped for wide screen presentation screening Indian and foreign products in a 1:1.66 ratio. The 1:1.33 ratio is virtually non-existent in cinemas situated in the principal cities, except for screening of documentaries and newsreels.

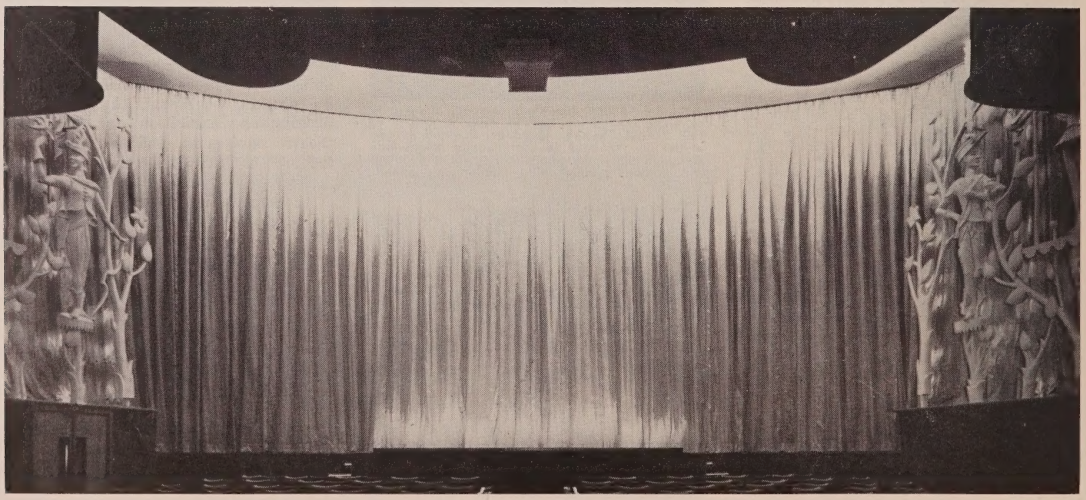
General Acceptance

CinemaScope has found general acceptance with most exhibitors. A number of houses that had been screening Indian films exclusively have now found in CinemaScope an added stimulant to their business. These houses screen CinemaScope prints with single optical track sound. There will be an estimated total number of 70 such installations by the end of 1955.

CinemaScope and wide screen installations have set exhibitors a problem in determining the minimum distance between the screen and first row of seats. In the absence of any official ruling most exhibitors used their own discretion and removed one or two rows of seats which they felt were too near the screen for proper viewing. Other exhibitors did not do so, leaving his patrons the option of sitting in these seats. Criticism appearing in the press led the State Government to intervene and apply the previously existing ruling



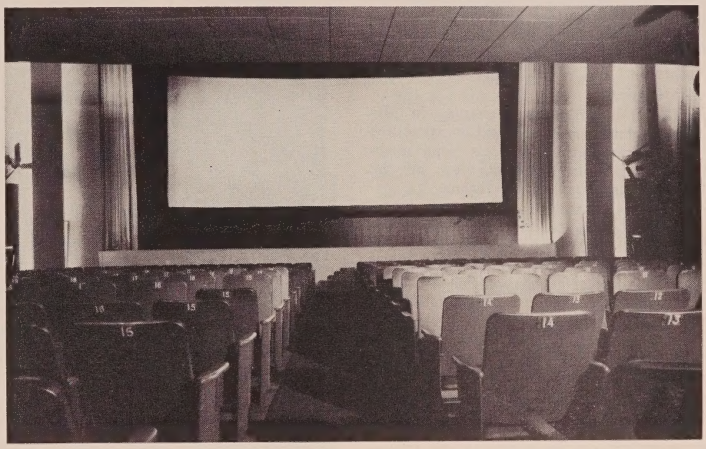
THE MARIVAUX, Paris, France, seen on this page, was completely remodeled in the lobby and auditorium. Sculptured panels were installed on each side of the walls touching the screen. The new seats are of alternate colors, gray and then dark beige across the auditorium, which can hold 1250 customers.



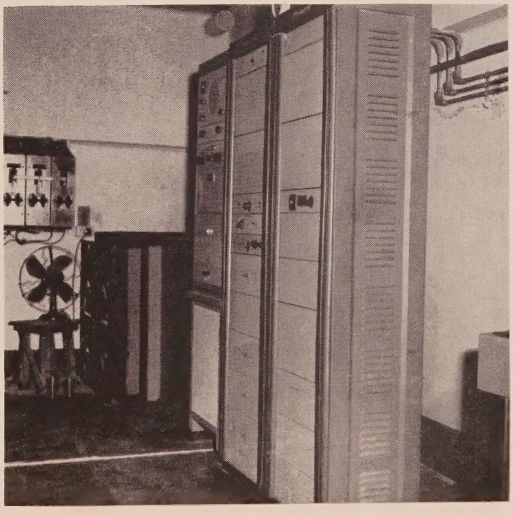
for standard pictures. The minimum distance from screen to the first row of seats should be the actual width of the picture. This caused an uproar amongst exhibitors and pending a final decision, it was agreed that children under 12 years are not to be permitted to occupy seats which are at a distance less than the width of the picture from the screen.

CinemaScope with stereophonic sound (four track magnetic and Perspecta) have been installed in a few key cities of India. These are theatres screening exclusively foreign films. By the end of 1955 there will be a total of 35 stereophonic sound installations in India comprising 22 magnetic four-track and 13 Perspecta sound. It is possible that the number will increase slightly in the next year, but the cost of even the cheapest stereophonic equipment is beyond the means of the average exhibitor. It is only when the Indian film industry adopts CinemaScope and stereophonic sound recording in future film productions that there will be a considerable increase in the number of such installations. At present, there is only one studio filming a CinemaScope production.

Compulsory exhibition of government approved films such as documentaries, Indian newsreels, etc., is one of the issues in which government and industry have not yet arrived at a settlement. A Supreme Court judgment in September 1954 held this condition in the cinema license issued by the Madras State Government as void and, thereafter, exhibitors in that State stopped screening government approved films. The industry is agreeable to screening these films in the public interest if they are supplied on a "no charge" basis. Necessary legislation was introduced in December 1954 to legalize the conditions in the cinema license in Bombay State, but it is to be seen how far the change will stand the test of law.



SEEN ON this page are photographs of two deluxe theatres which 20th-Fox recently took over in India. Seen (top) is an interior and exterior view of the Plaza, New Delhi. It is air-conditioned and has been equipped for the showing of CinemaScope and other wide screen systems. Seen (below) are views of the Elite, Calcutta. This theatre is also air-conditioned, which is rare in India, and equipped to show wide screen films with full magnetic stereophonic sound. As can be seen by the view of the bar (left) the theatre is also well prepared to offer its patrons fine service as well as fine films.



Censorship

Censorship is another subject on which industry and government hold conflicting views. Foreign films are being subjected to severe censorship, which resulted in 35 films being banned in the first 11 months of 1954. Extensive cuts have been made in the majority of foreign films granted certificates and even these have been classified as either "A" for adults, or "U" for universal exhibition.

A great controversy is raging between the American film distributors and censorship authorities who are accused of adopting too severe and critical an attitude to Hollywood product. Certain film journals have published the views of the Censor Board vis-a-vis the film industry, and have invited comments and opinions from readers.

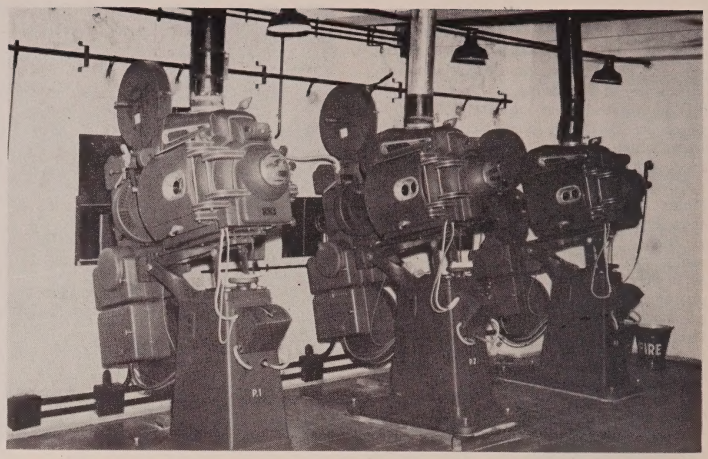
Three-D films have declined in popularity due mainly to poor projection techniques and inferior quality of 3-D glasses manufactured locally. Import of cheap 3-D viewers from abroad was banned by the import licensing authorities. The 3-D feature films previously imported are now being screened in 2-D version.

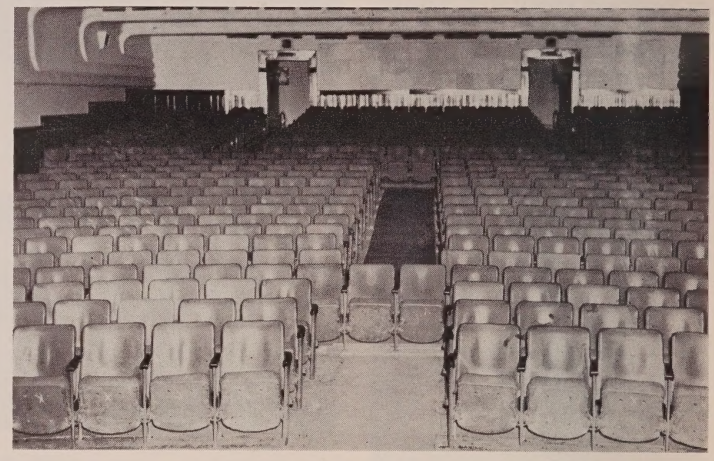
There has been no change in the government and local taxation structure of the industry. Efforts are being made to get these reduced in view of the overall poor business conditions.

Drive-in theatres have not been introduced in India as yet. Conditions are favorable to its development in a few large cities. It is to be noted that the total number of motor vehicles including buses and trucks is less than 250,000 in the entire country. Open air showings are given in fair season by touring theatres which visit small towns and villages accessible by road only.

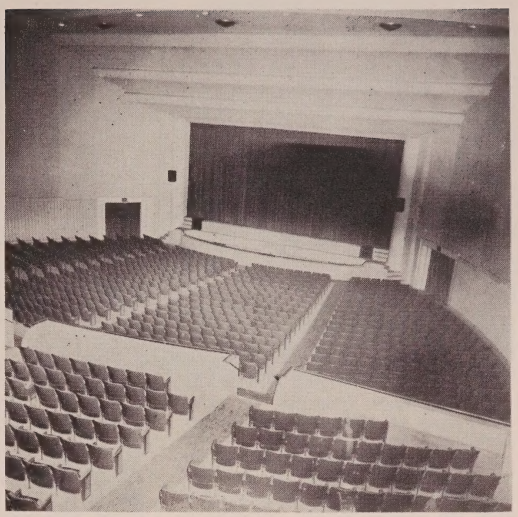
Equipment Picture

The interesting feature of the equipment market is that due to the liberal





ANOTHER of the houses recently taken over by 20th-Fox in India is the New Empire, Bombay. Various areas of the theatre are seen on this page. There is a 42 foot wide screen in the auditorium for the showing of CinemaScope, as well as projection and sound equipment necessary, supplied by Westrex.



attitude of the licensing authorities, there is in existence every make and type of sound projection equipment offered by almost every country in the world.

The majority of equipment is less than 10 years old, but has suffered deterioration for lack of proper service. Although there are several equipment dealers, few maintain proper service facilities. Westrex maintains the only extensive service organization with qualified service personnel in five depots located at the various important cities and has earned a reputation for quality and efficient service.

PANAMA

Little New Construction

New theatre construction in Panama has been practically nil for the last few years, as the market here is saturated; however, the theatres were quick to adapt to CinemaScope when the system was introduced to the industry. To give an example, in Panama and the Canal Zone there are at present nine complete stereophonic installations and approximatly one-half of the theatres are equipped with wide screens and anamorphic lenses for optical presentation of CinemaScope. In Nicaragua and in Guatemala, where CinemaScope was introduced after Panama's, installations of wide screen and lenses as well as stereophonic sound, has been a little slower. Two theatres in Nicaragua have multi-channel equipment, and at the present time three theatres in Guatemala have multi-channel equipment. In San Jose installations are just starting as contracts for the release of magnetic pictures have not been signed up until now. This is also the case in British Honduras.

In Salvador all of the theatres in operation in the past have been Government owned. A new law has now been passed in Salvador allowing private construction of theatres as well as private ownership with the results that there are

THE Gonzales Theatre, in Nicaragua, seen above and below, is one of the very few houses in that country to equip itself for wide screen films. It is a spacious, well appointed movie theatre.

in construction and planning at the present time five new theatres by various companies. Honduras is constructing, at the present time, one theatre that was due to open in July, with another by the same circuit for opening a year from now.

Central America has only one drive-in theatre and that is located in Panama. This theatre is equipped for wide screen, standard, 3-D, and CinemaScope optical presentation. (See pages 114-117 in 1954-55 THEATRE CATALOG).

The exhibitors as a whole are very appreciative of the results obtained by the stereophonic magnetic recording. The Perspecta sound method, although effective to a certain degree, has run against some resistance with the exhibitors. The main deterring factor for magnetic installations is the fact that there are too many exhibitors working in areas that could not support the purchase of this equipment although many of these people would like to install the equipment.

With the advent of CinemaScope the admission price changes were upward in the first run theatres.

The second and third run exhibitors, who change their programs daily and run double features, have naturally, been hurt by the product shortage in Hollywood and these people have been forced to re-release old pictures to fill the time.

In approximately 90 per cent of the cases where wide screens have been installed, the theatres have not done anything with the reconstruction of their theatres to accept the new screens, and rather have limited themselves to screen sizes that will fit into their present stages. In the other 10 per cent of the cases, the exhibitors have gone through extensive changes in order to present to the public the size screen suitable to the theatre.

PHILIPPINES

We venture to say that the film industry, in general, is going through a prosperous phase in the Philippines right now. One circumstance that helps considerably is that the Filipinos understand perfectly the English language, and therefore American films are well accepted and liked. The exhibitors have, without much grumbling, accepted all the changes and corresponding expenses which came about with wide screen projection and stereophonic sound. Many new theatres have wide screen projection.

There are no drive-in theatres in the Philippines. No one has ever found out actually why, but probably the main reason is that it would be too hot to sit inside a car even in the evenings, and watch a picture. Probably another reason is the annoyance from mosquitoes.

At present the government is not restricting directly the construction of new theatres. There is however an indirect restriction in the form of import and exchange controls which limits the supply of materials and equipments necessary for new theatres.

If you make a trip to the provinces you will observe that the main recreation of the people is going to the movies. You will hardly find any other recrea-

tion facilities such as, bowling alleys, bars, and dance halls which would draw away people from attending moving pictures, except the churches and town feasts. Cockfights, the Filipino national sport, take away considerable crowds from theatres also. Cockfights, unlike theatre performances, are held only during weekends and holidays.

PORTUGAL

There are very few cinemas in Portugal in comparison with the population. For 8,000,000 inhabitants there are only about 300 theatres. This may be due to several reasons.

There are very few films produced in Portugal, in the Portuguese language. Therefore, nearly all the pictures shown in this country are foreign ones. Some are shown in their original version with sub-titles. Apart from the fact that dubbing is at present forbidden, the distributors are of the opinion that the cost of dubbing would be too high for the present small market. In spite of that, there is now a tendency to obtain from the Government the authorization to dub in Portuguese a limited number of pictures.

Construction of new theatres is controlled by the Government. The Portuguese people being fond of live shows, the theatres generally have a stage permitting same, which increases the cost of construction.

Most of the 300 cinemas in Portugal only give one, two, or three performances per week, and are equipped with only one machine.

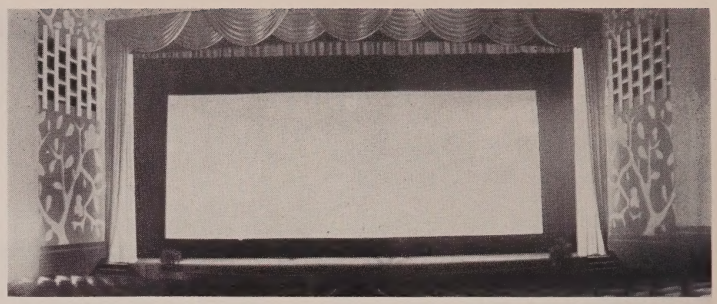
There are a number of open-air theatres, but no drive-ins. The open-air theatres only play during the summer.

Well Designed

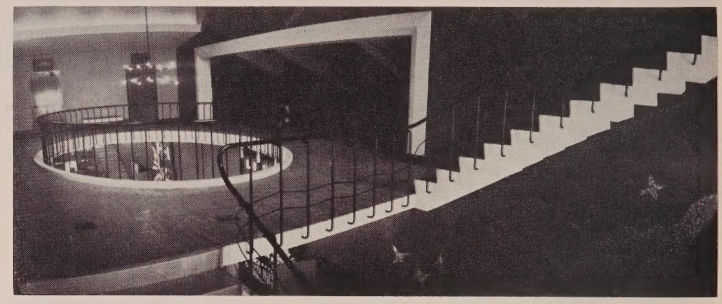
Newly built theatres are generally very well designed and have modern decoration. Large lobbies are indispensable as the public likes the intervals so much, that it is a custom to have two intervals during each show, one after the news and the short subject, and another one in the middle of the main picture.

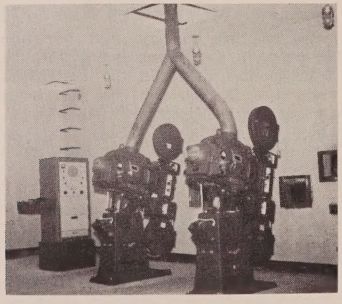
The new techniques have been well adopted by the first run theatres in Lisbon and Porto. These two towns now have several theatres equipped for CinemaScope projection with stereophonic sound (magnetic or Perspecta). In smaller towns the small number of weekly performances makes it difficult for the exhibitor to pay for stereophonic reproducing equipment.

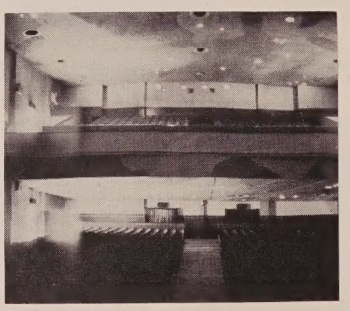
Portuguese like the movies and it is believed that the show business should expand in the country if adequate measures were taken. Perhaps dubbing foreign pictures would bring more people to the theatres, especially from the lower class people who would enjoy them better than with the present sub-titles, which, apart from the difficulty of having to read them, are always mutilating the dialogue.

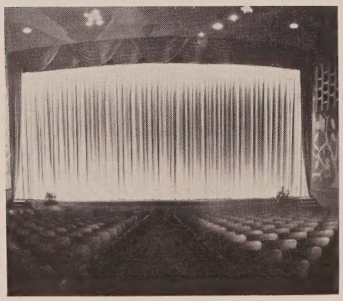


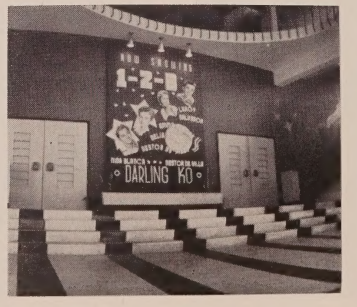
A MODERN theatre in the Philippines, the Estrella, tastefully decorated and equipped with Westrex projection and sound, creates an atmosphere that puts the patrons in the mood for good film entertainment.











SOUTH AFRICA

As a result of import control introduced in 1949 there has been very little new theatre construction in this area during the last five years. In an effort to limit the drain on the country's financial resources, the import of CinemaScope films and CinemaScope equipment was prohibited and this had a detrimental effect on the earnings of theatres during 1954. Fortunately, an improvement in the currency position which became evident towards the end of 1954, enabled the ban on CinemaScope to be withdrawn and permitted considerable relaxation of the equipment import restrictions. As a result, approximately 20 per cent of the country's 400 theatres have already been equipped for projection of optical track CinemaScope films and it is anticipated that nearly 50 per cent will be equipped by the middle of 1956.

The trade and public reaction to CinemaScope has generally been favorable,

ONE OF the finest theatres in Spain is the Palafox, in Zaragoza. Seen here are two views of the auditorium showing screen and the balcony.

although the continuing ban on the import of stereophonic sound equipment has prevented the full impact of the new developments from being realized. Those theatres which have equipped for optical track CinemaScope have experienced an increase in takings such as to justify the cost of conversion and it is expected that a fair proportion will install magnetic stereophonic sound or directional optical sound when it becomes available.

New Construction

Some new indoor theatre construction has taken place since import control was relaxed and much more is planned for 1955/56 completion. 20th Century-Fox is very active and has opened a new theatre in Germiston and one in Port Elizabeth during the early months of 1955, both of which are 1500 capacity, built and decorated in the most modern and luxurious style. Equipped with Westrex sound, Century Projectors and Ashcraft Super-Power Arcs, the three-projector booths of these theatres represent the ultimate in today's sound and projection techniques. The screen at Germiston is 68 feet wide and is the largest indoor screen in Africa. Fox is now busy building a new theatre in Durban and expects to start one in Johannesburg very soon. During the first six months of 1955 they have modernized and installed new Westrex sound equipment in their existing theatres located in Johannesburg, Durban, Cape Town, Port Elizabeth, and Pietermaritzburg. To meet the requirements of CinemaScope, MGM has installed new sound in their theatres in Johannesburg, Durban, and Cape Town, while they are reported to have plans for a new theatre in Pretoria. Independent exhibitors have started construction of new theatres in Durban, Klerksdorp, and Cape Town, all of which are expected to open before the end of 1955. Other projects are still in the planning stage.

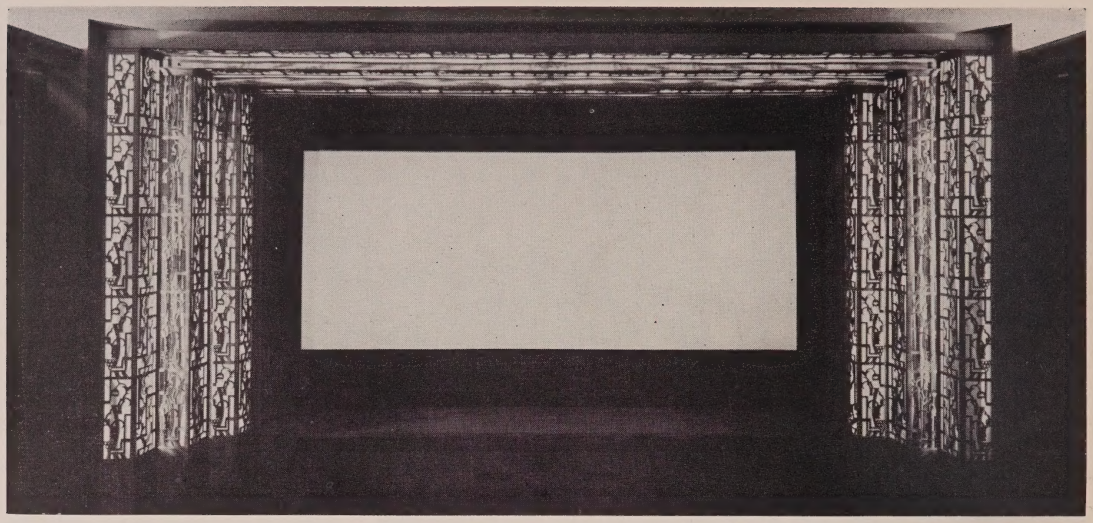
Although the climate throughout most of South Africa is ideally suited to drive-in theatre operation, development has been relatively slow as a result of import control and initial government opposition. Showman Max Jude started the ball rolling in 1953 with the first drive-in, on the northern outskirts of Johannesburg and a second one opened in 1954 to the east of the city. The immediate success of these theatres encouraged others, but no progress was possible until the easing of import control occurred. As of mid-1955, three new drive-in theatres are under construction in the Durban, Pretoria, and Johannesburg areas, while others are planned for Port Elizabeth, and Cape Town. More are expected to follow. A capacity of 500 to 600 cars seems to be most popular with drive-in exhibitors and screen widths go up to 120 feet. The drive-ins so far in operation have had no apparent effect on first run city indoor theatres, but have reduced the audience size at suburban theatres in their vicinity by about 10 to 20 per cent.

There is an optimistic attitude on the part of most cinema exhibitors in South Africa. The country is a young one with plenty of room for expansion and plenty of opportunities for exhibitors with initiative. Monopolistic conditions which have existed in the industry for many years are now tending to disappear.

SPAIN

There are about 4,500 theatres in Spain and this number is increasing every year as Spaniards are very fond of moving pictures. The building of new theatres in very active, although subject to certain regulations in order to avoid competition of too many theatres, especially in small towns.

PATRONS of the Palafox can not help but be impressed by the spacious lobby, in addition to the colorful modern paintings seen on the walls.



ONE OF the finest of the 550 theatres in Switzerland is the Cinema Capitole, in Lausanne. The theatre is one of the few in this country which has installed both wide screen and stereophonic sound.

The newly built indoor theatres in the main cities are generally very well designed and have large lobbies, beautifully decorated auditoriums, comfortable seats, etc. Generally, the decoration of the proscenium arch has been particularly studied to give an impression of richness, which is increased by costly and heavy velvet curtains.

The old theatres built before the civil war (1936) do not, of course, show the same modern designs and decorations, but many of them have been, or are going to be modernized, due to the necessity in which exhibitors find themselves to enlarge the proscenium arches for CinemaScope projection.

All small towns and most of the villages have at least one theatre, but in many cases they only have one projector.

As regards the new techniques, some have been immediately accepted by Spanish exhibitors. Less than one year after the release of the first CinemaScope picture, all the main cities had one or more theatres equipped with CinemaScope screens and stereophonic sound (magnetic or Perspecta).

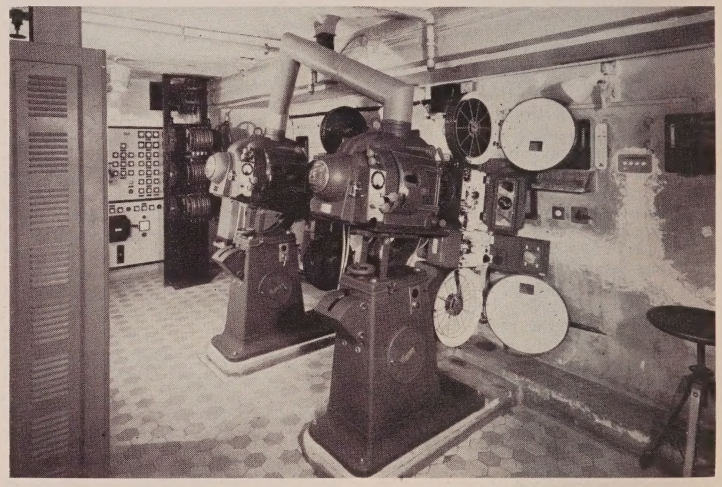
In smaller towns, CinemaScope is shown without stereophonic sound. This is due to low admittance fees which make it difficult to pay for the stereophonic sound equipment.

Outdoor Theatres Popular

Outdoor cinemas are very popular in the southern part of the country. In some towns, like Sevilla and Cordoba, there are more outdoor cinemas during the summer than indoor ones during the winter. In Madrid and in the north, there are practically no outdoor cinemas.

There are no drive-in theatres in Spain. This is due to the high cost of cars in this country, which reduces the number of car-owners. Employees and workmen, who constitute the best customers for theatres, cannot afford having a car.

Admission fees are generally low. The best seat in the best theatres in Madrid and Barcelona can be bought for Pesetas 35.—($0.90). Popular theatres lowest charge is as low as Pesetas 4.—($0.10), or even less.



Spaniards very much enjoy going to the movies. Films are either of local or foreign production. All foreign films are shown in Spanish dubbed version, so that the public can undrestand them as well as the Spanish ones, not having the trouble to read the sub-titles as in other countries where dubbing is forbidden.

SWITZERLAND

There are no outdoor theatres in Switzerland for the reason that distances between towns are not long enough to justify same. Anyone desirous of seeing a film can do so in the next town or village.

The film industry in Switzerland is, of course, small, but compared to other small countries, it has done some outstanding work. Films such as Marie Louise, The Village, The Last Chance, Heidi, etc., have been shown in large parts of the world. However, the industry as such is deficient, and it can only be kept alive by the help of the Government, big banks, Brown, Boveri, etc.

Number of Theatres

The number of cinemas in Switzerland is about 550, of which 61 per cent is in the German-speaking part, 31 per cent in the French-speaking part and eight per cent in the Italian-speaking part. The number of cinemas has risen from 325 in 1931, to 405 in 1949, and to 550 in 1954. The number of inhabitants being about 4,500,000, this means about one theatre per 8000 inhabitants. The relative number of theatres, is therefore, smaller than in some other countries and the reason for that is two-fold.

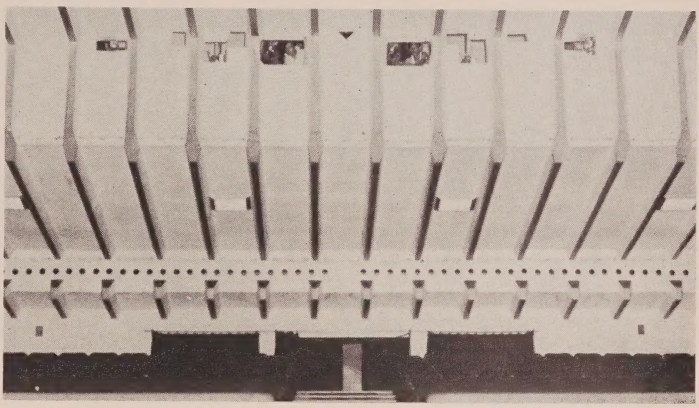
A large percentage of the population is very religious and is, therefore, anti-cinema minded, at least to a certain extent. The proof of that lies in the fact that on such days as Christmas, Good Friday, Easter, etc., all cinemas are closed.

The cinema-owners have created an Association which practically has a monopoly. Film renters are obliged to be members of this Association, otherwise no exhibitor would take their films, whereas every exhibitor is obliged to be a member of this Association, otherwise he could not get films. Therefore, no one can open a cinema unless the Association approves, and since the Association has every interest not to see new cinemas opened in areas where it considers there are sufficient theatres, the increase in the number of cinemas is slow. Therefore, the trade is sound and all existing exhibitors are doing well.

Resistance to New Developments

The new developments in projection and sound have been accepted to a certain extent, but with enormous resistance, due to the fact that there was no need for novelties in this country, the exhibitors earning plenty on old style films. Yet, about 20 per cent have turned to CinemaScope, but only a maximum of five per cent have taken stereophonic sound so far. This, however, is also the fault of the producers, as the consensus of opinion is that no CinemaScope film so far has brought in better takings than any good normal film.

The industry seems rather optimistic, but the progress as far as novelties are concerned will largely depend on the quality of the new films. Many exhibitors also fiercely object to the higher rates which are still being asked for CinemaScope films.



THE CHALERM THAI, is one of the most modern in Bangkok, Thailand. This 1433 seat house has an attractive exterior (above). Seen (below) is an unusual view of projection booth ports and the balcony.

THAILAND

Thailand meaning Freeland is the land of the contrasts. There are large modern theatres with seating capacity up to 2000, having most lavish Thai and Chinese decorations, and equipped with the most up-to-date multi-channel three or four machine projection and sound equipment, with screens up to 30 by 60 feet and United States made push back chairs. The Thai architects incorporate the finest Thai art in their design of theatre and cinema halls.

Land of Contrasts

On the other hand, about 60 per cent of the cinemas do not run sound pictures, and show exclusively silent foreign and Thai films.

As 90 per cent of the population speaks no other language than Thai, these cinemas employ translators or commentators who explain foreign and Thai films to the audience. This "art" is so highly developed and synchronized that even a good sound engineer is not always able to tell, sitting in the audience, whether the film being projected, is a sound or silent picture.

In several instances, a bad foreign or native sound film is of enormous success when shown as a silent film translated through microphones, amplifiers, and normal theatre speakers, without utilizing the sound track.

There are only two Thai 35 mm studios in Bangkok, and approximately 72 16 mm studios, all of them producing silent 16 mm films.

The population has always been keen on theatres and cinema shows, but never were the theatres and cinemas so packed for such long periods as the time when CinemaScope was introduced into this country three years ago. The Thai people, however, do not fancy stereophonic sound.

There are no drive-in theatres in Thailand, the theatre building boom during the last two years made the Thai Government restrict, and in some cases like the town Bangkok, completely ban the building of new theatres for the next three years. However, old theatres and cinemas are being demolished, and on the sites, modern theatres are being built. The film industry is optimistic.

264 Theatres

There are a total of 264 cinemas and theatres in Thailand, 35 per cent of which show 35 mm films, mostly foreign films, predominated by American.

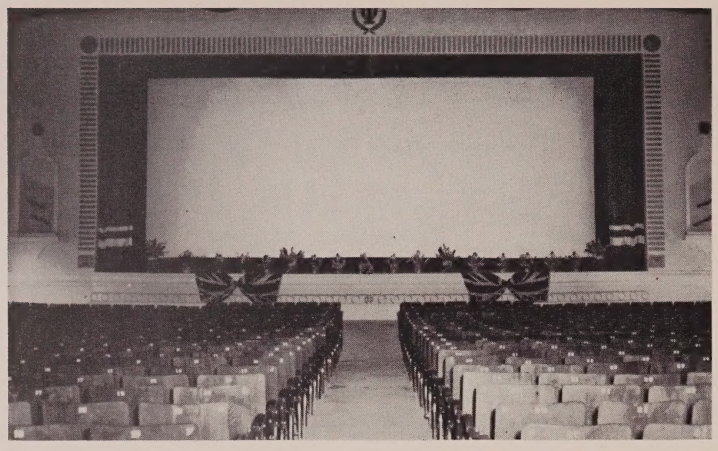
About 60 per cent of all the films are today being projected on wide screen.

At present there are theatres in Thailand with CinemaScope projection, mostly single track. The Chalerm Thai Theatre, a Government owned cinema hall, was the first one to open with CinemaScope multi track Westrex equipment on December 30, 1955. The entire equipment came by air from New York.

Cinerama, which came by air as well for the United States Information Service, was demonstrated in November, 1954 for eight weeks for packed houses during the Annual Thai Trade Fair, and boosted the popularity of CinemaScope. Visitors from Pakistan, India, Ceylon, Burma, Malaya, Indonesia, Philippines, Viet-Nam, Cambodia, and Laos came to see the spectacular Cinerama performances.

VENEZUELA

Generally speaking, no great changes have been noted in the theatre industry in Venezuela over the past few years. In Caracas and Maracaibo, the two major population centers, construction of



ANOTHER interesting and well equipped theatre in Bangkok is the Odeon, seen in interior (above) and exterior (below) views. This theatre is able to project CinemaScope and the other wide screen systems.

new theatres has been at a minimum. Only two new theatres were opened in Caracas during 1954 and 1955, and none in Maracaibo. Of these two, the Teatro del Este, opened most recently. It was designed for live entertainment, and although it is fully equipped for sound and projection, including anamorphic processes, no motion pictures have been exhibited in this theatre up to the middle of this year. It has concentrated on imported artist companies and concerts. At the present time only one theatre is under construction in Caracas. This theatre is to be of the newsreel type, and will be completely equipped for all types of 35 mm showings, as well as for 16 mm, and television. There is one drive-in theatre in the eastern section of Caracas, and while it has been in existence for approximately five years, it has never proven popular with the general public. No other drive-in theatres are in operation in the country.

Little New Construction

The lack of theatre construction in the above mentioned places is due mainly to the theatre building boom of a few years ago, and both cities are considered to be slightly overseated. There has been some activity in the construction of new theatres in other sections of the country. About 10 were opened in 1954 and it is expected that a like number will be opened in 1955. In all, there are about 530 commercial 35 mm theatres operating throughout Venezuela on a full-time basis. Non-commercial situations and 16 mm operations swell this total to approximately 750 theatres.

In general, there has been a slight increase in theatre grosses during the past few years. Whether this has been occasioned by increased attendance or by the higher admission charges for CinemaScope and certain epic productions, is debatable. Undoubtedly the increase has been caused partly by one, and partly by the other.

Keen Competition

Keen competition among first run exhibitors and complete lack of any import or exchange restrictions made the Venezuelan theatre industry quick to adopt new mediums of projection, such as CinemaScope and the wide screen. CinemaScope was first demonstrated in Caracas in November of 1953. Shortly before that time, a few theatres were converting to wide-screen presentation. Immediately following the CinemaScope demonstration a widespread interest developed in that medium. Within the short period of six months the first run houses in the major cities were all equipped for showing wide screen and anamorphic type pictures. At the present time there are estimated to be about 125 theatres so equipped throughout the country. Of this number, only a small minority of about 30 theatres are equipped with stereophonic sound, and most of the theatres so equipped have dual systems for showing both four track magnetic and Perspecta sound.

While this percentage of newly equipped theatres is perhaps not as large as will be found in other countries, there are certain factors bearing on the situation. The main deterrent is in the type of theatre construction prevalent throughout the country outside of Caracas. Practically all of the theatres are of the open construction type and have the screen slightly recessed in the rear wall. This of course leaves no method of properly mounting large screens without involving high construction costs and other difficulties. Where large screens are mounted in theatres of this type, they are mounted in front of the old screen location, out in the open, and there is no roof or overhang to protect them at this location . . . The exhibitors undoubtedly feel that it will be less expensive to replace the screen more often than to enter into the expense of construction and ventilation problems. Another major deterring factor is the prevalence of Mexican and European product which is used by the smaller theatres in the interior. None of these pictures which have been produced to date, with possibly a few exceptions, have been filmed for wide screen exhibition.

TV No Problem

Although there are three television stations operating in Caracas at present, theatre grosses have not generally suffered. Most of the exhibitors are optimistic about future prospects since the country is prospering and gaining rapidly in population. Like exhibitors everywhere, they are anxiously waiting for the day of standardization in sound and projection, since the recent changes and innovations have proven costly, and relatively few theatres have been benefited directly from them.

●

ACKNOWLEDGMENT

The Editor and staff of THEATRE CATALOG would like to express their thanks to Mr. Mead Walworth, Sales Promotion Manager, Westrex Corporation, and the members of that organization's world-wide staff, for furnishing the material and photographs used in this survey. Although space does not permit a personal mention of all those who so graciously gave their time and effort to make this article possible, we would like them to know their efforts did not go unappreciated.

Model Remodeling

The Story of How a 30 Year Old Neighborhood Theatre Was Converted Into an Outstanding Example of Exciting and Modern Theatre Design

By FRANK GRUYS, A.I.A.
Faxon & Gruys, Architects

BRIEF: ***With the public constantly being surrounded by modern designs . . . both at home and at work . . . the motion picture theatre today must be made sleek and functional in order to survive . . . Although conditions at this time do not warrant a great deal of new conventional theatre construction . . . they do demand that many existing houses undergo extensive remodeling jobs . . . This article . . . prepared by the architect who headed the project . . . describes how a 30 year old neighborhood theatre . . . filled with the type of ornate construction and decoration that was prominent when it was originally erected . . . was turned into a smart and ultra-modern art house that demands the attention of the public by its very appearance . . . As told in words and pictures it is possible to see exactly what was done . . . and why it was done in certain ways . . . Although it is . . . of course . . . not suggested that all theatres follow the same pattern for remodeling . . . the information contained here does present a graphic example of what can be done to remodel a conventional four-wall house so that it can take a place in the modern world we now live in.***

Some time ago a theatre was built in San Diego, Calif., which embodied all the ornate embellishment associated with theatre design of the twenties. This theatre was appropriately named the "Egyptian." Some 30 years later Burton I. Jones, a successful exhibitor, took over the theatre, gave it a new operation policy and a new environment. The end result is the "Capri," previously grossing $600 a week at the boxoffice, and now grossing up to $12,000 a week.

Operating Policy

In this day of drive-ins and television the man who wants to perform such radical surgery on an existing neighborhood house is looked upon with a bit of awe. Jones decided to create a theatre which would provide the right showcase for the showing of art and quality films that have the potential of extended runs, and could demand and get a higher admissions scale.

An integral part of the operating concept was the creation of a fresh and stimulating theatre providing a suitable environment which would complement the art policy. Without being snobbish, it was decided that the theatre design should be ahead of the public . . . to try to lead and not be led. Early discussions of the design included the use of sculpture and the possibility of incorporating other contemporary art forms.

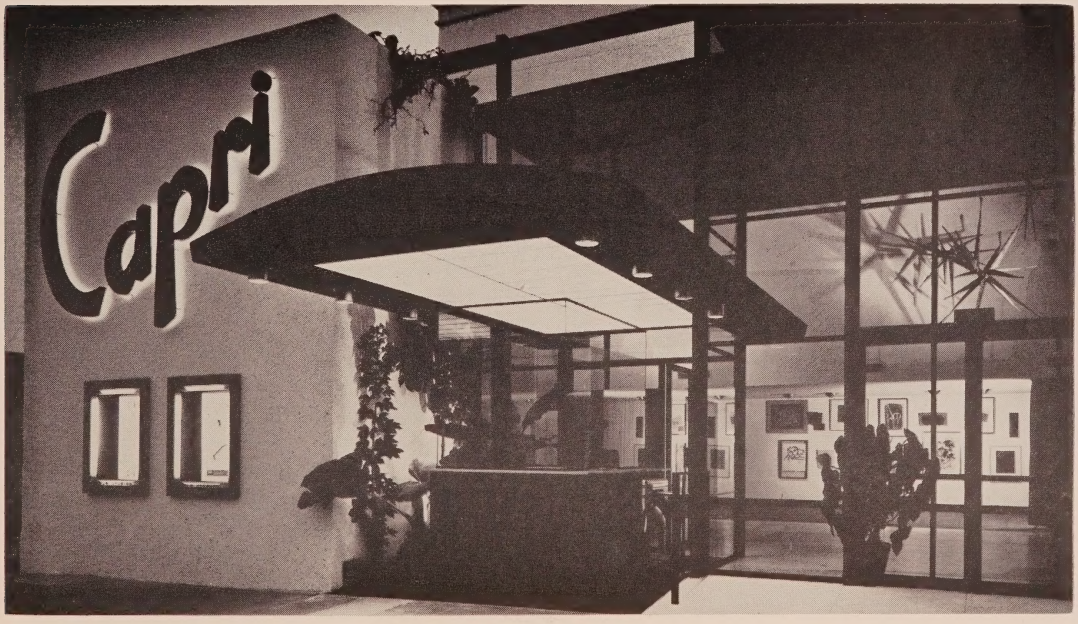
Basic Design Concept

The basic design concept is a series of simple but colorful planes, dominated by a strong Mondrian flavor. The ornate concrete columns, forecourt canopy, and other evidences of the past were removed. Two stores on either side of the lobby were incorporated to provide additional theatre facilities. The lobby was enclosed at the street front with a framework of black metal, set with solex glass, and extending to a height of 17 feet.

The Front

In order to emphasize the location of the boxoffice, the usual marquee was eliminated in favor of a curved canopy directly over the boxoffice, piercing the front glass wall and extending into the lobby. The underside is brightly lighted with a luminous ceiling and direct downlight spots, creating a dominant entrance point. The turnstile is an integral part of the booth design and eliminates the necessity for a door man. Since the operating policy is assumed to be an extended run, the usual attraction board was eliminated in favor of a simple

A FRONTAL view of the remodeled Capri which carries out the basic design concept of a series of simple, but colorful planes. The usual marquee was eliminated and replaced with a curved canopy directly over the boxoffice. The underside of the canopy is brightly lighted to help attract attention.

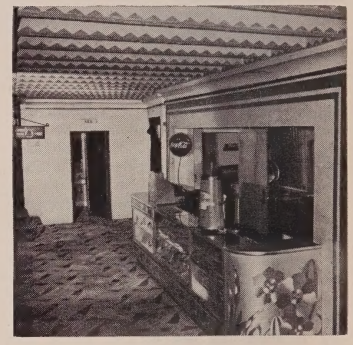


board which would allow greater flexibility for advertising. The board is made of perforated transite, permitting "pegging" of letters which may be of any size and style. Both faces of the attraction board are lighted by spotlights concealed on the roof.

The Interior

The side walls of the lobby are in bright primary colors of red, yellow, and blue; the ceiling is midnight blue perforated acoustical metal decking spanning approximately 27 feet. Walls, other than where colored panels occur, are of a Zolatone finish of white with beige fleck. The floor is terrazzo in a design pattern of black and white.

Early in the preliminary work we were most fortunate to retain Bernard Rosenthal, nationally known sculptor, who created the bronze stars suspended from the lobby ceiling, and appropriately named "Stars Over Capri." Spots con-



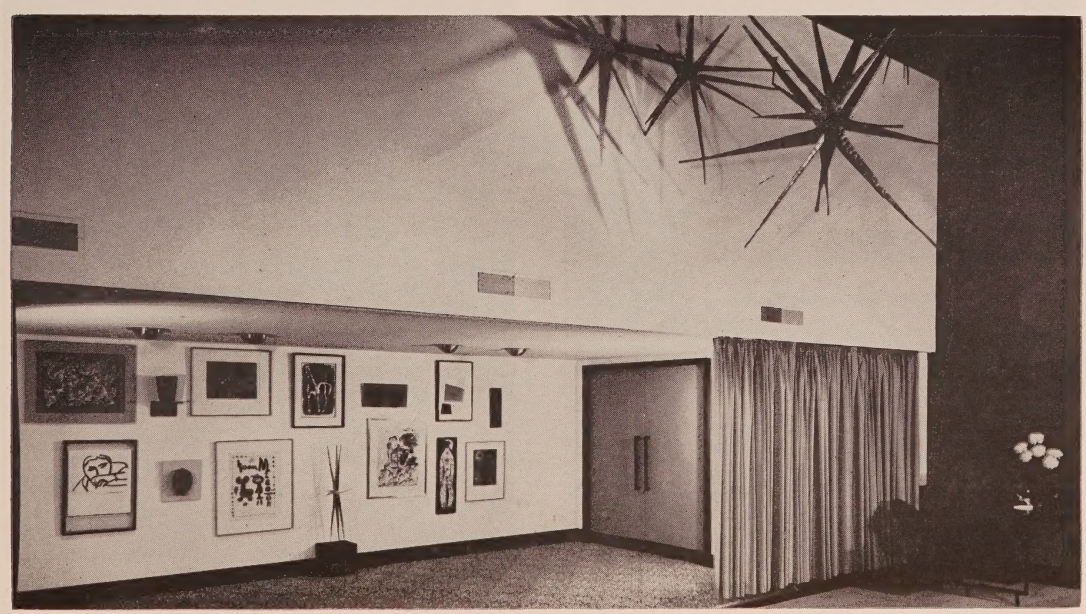
THE CONTRAST between the old concession stand and lobby (above) and the remodeled (left top, and below) is startling. Bright primary colors of red, yellow, and blue were used in this area.

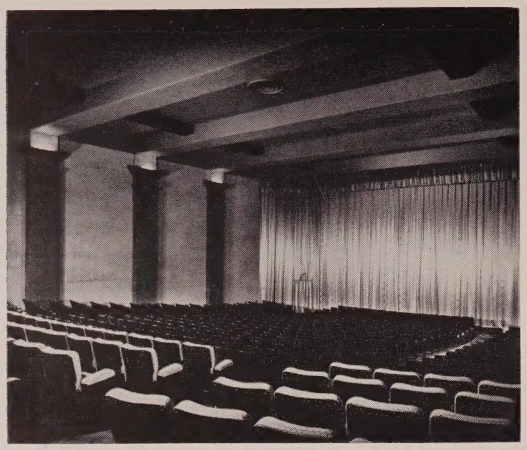
cealed in the candy bar canopy cast an interesting shadow pattern of the stars on the rear lobby wall.

The concession stand, which opens to the lobby, also has a separate street entrance. A trademark of Jones' theatres is the combination adult and children's drinking fountain, formed in terrazzo and continuing the overall design motif. The manager's desk is located in the lobby, encouraging the personal relationship with patrons, so successful in many other types of business.

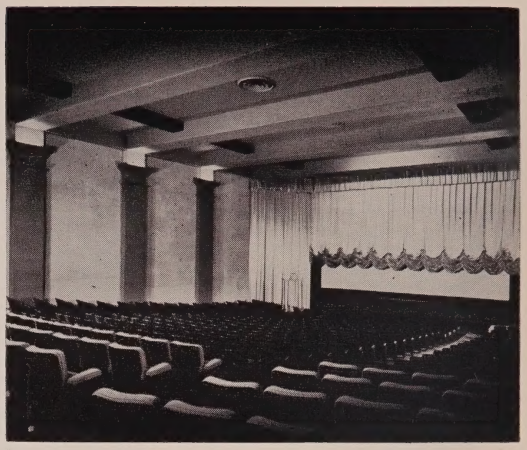
A new foyer was developed including new entrance doors to the auditorium, providing sound and light traps. The rear wall of the foyer is used for a gallery of contemporary art and so arranged that the display may be periodically changed. The picture wall provides a handsome design element for the entire approach to the theatre, and for those interested in contemporary art, the opportunity to enjoy a fine collection of outstanding work.

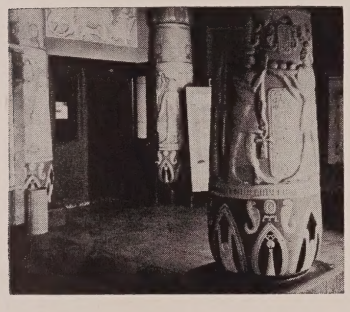
SINCE the new policy of the Capri was that of an art house, it was only natural that this was used as part of the decorating scheme. As can be seen here, art objects dominate the lounge.





THE OLD proscenium columns in the auditorium were removed to permit the installation of a wide screen and draperies. A new concrete floor was also laid, and 215 loge chairs and 500 new general admission chairs were put in. A new automatic air conditioning system was included in the remodeling.





A PICTURE of the heavily ornate theatre front before the remodeling project was undertaken.

The Auditorium

The old auditorium had its share of ornate work, but fortunately could be effectively painted out. The old proscenium columns were removed to permit the installation of a wide screen and draperies.

An entirely new concrete floor was poured. The new seating, installed by Heywood Wakefield, consists of 215 loge type chairs measuring 44 inches back-to-back, and 500 general admission seats that measure a comfortable 36 inches. A flat black paint was used on the chairs so that they blend with the interior color scheme, which is gray and black with the columns highlighted in Chinese red. The curtain is gray and extends completely across the front of the auditorium for dramatic effect.

In order to be able to install the wide screen, which is capable of showing CinemaScope, VistaVision and the other systems, we found it necessary to bring it out in front of the proscenium. The screen was manufactured by Raytone, and the projection and stereophonic sound equipment by Simplex.

To complete the remodeling of the theatre, a completely new air conditioning system was installed using two 15 ton Westinghouse compressor units. A low pressure hot water system is used to furnish heat when needed, and both the cooling and heating systems are controlled by automatic thermostats.

PLACED DIRECTLY under the canopy, the boxoffice has been given a dominant position. Note, turnstile is an integral part of the boxoffice's design.

THE LOBBY was enclosed at the street front with a framework of black metal set with solex glass and extending to an impressive height of over 17 feet.

South African Showcase

The 20th Century Theatre Gives South Africa One of the Finest New Houses Designed Especially for the Showing of CinemaScope

BRIEF: ***The nation of South Africa has been making great strides in recent years . . . both in the field of economics and social progress . . . An interesting example of this healthy growth and development is the recently opened 20th Century Theatre . . . in Port Elizabeth . . . One of the few theatres designed especially for the showing of CinemaScope and the other wide screen systems . . . this theatre represents the finest and latest thinking in motion picture theatre design . . . The article describes the various areas of the theatre . . . and the accompanying photographs tell a more graphic story of what this fine new house is like . . . Exhibitors thinking of constructing a new theatre would do well to study this article.***

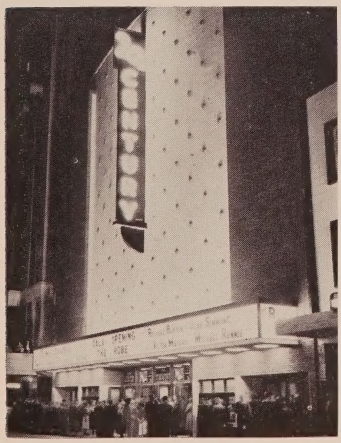
THE IMPRESSIVE exterior of the recently opened 20th Century Theatre is seen in a day (above) and night (below, left) view. This theatre is one of the finest houses to be constructed in South Africa.

One of the few theatres in the world designed specifically for the presentation of CinemaScope productions utilizes the architectural simplicity of its ultra-modern design to "draw" the prospective patron right into the lobby.

The recently opened 20th Century Theatre in Port Elizabeth, South Africa, built at a cost of roughly $750,000, is an outstanding example of foresighted contemporary theatre design—with its visually exciting and functional decor complementing the technical achievements of its CinemaScope and stereophonic sound.

Exterior

The theatre, with its imposing facade of ultra-modern simplicity, commands immediate attention from passersby. A 40-foot neon sign slashes down the center line of the curved wall frontage of champagne-colored mosaic tiles over a pattern of emerald insert "stars." This pastel front above the marquee is framed on each side by plum-colored face brick. The attractive marquee, recessed lighting and wide angle spotlights combine to give a brilliantly illuminated appearance to the whole front of the building at night—bringing out the warm, glowing contrast of the rose-tinted Italian Bottichino marble below the marquee.

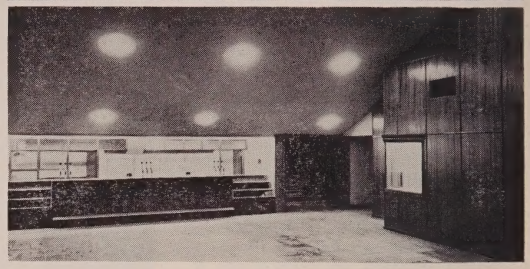


Foyer

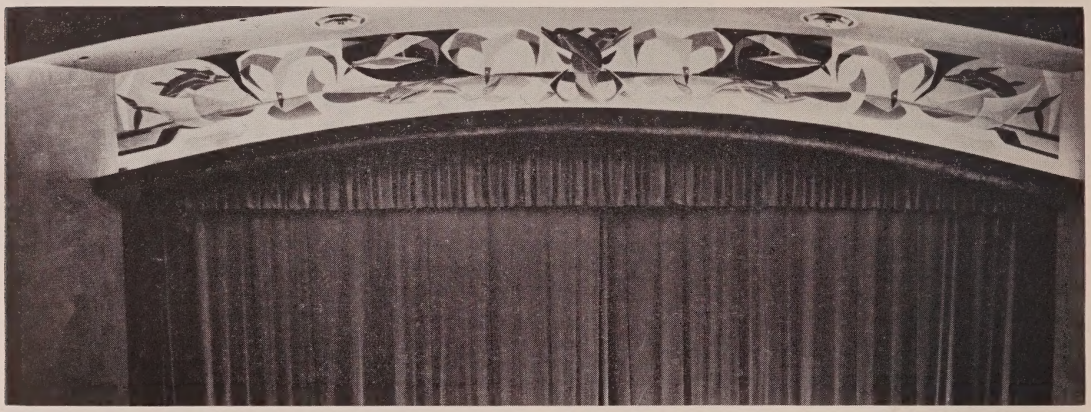
The marble continues on into the main foyer indirectly lit from a circular dome set in a sky blue ceiling. A wall of pink mirrors opposite the auditorium doors and fluted pillars of stainless steel and bronze add to the luxurious feeling of simple elegance. The box-offices have been located so that crowds entering the theatre do not block access to them. Two sets of stairs on either side of the foyer lead to the spacious upper foyer and Royal Circle, while two more lead to the refreshment lounge and bar and men's and women's lounges on the lower ground floor.

Auditorium

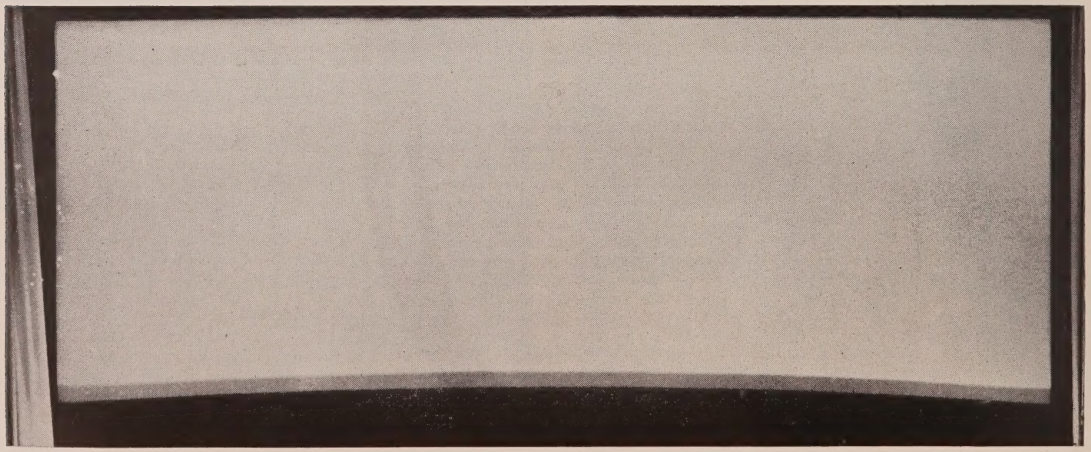
The soft, subtle colors used throughout the auditorium contribute a remarkable atmosphere of intimacy. The lower walls are lined with veneered panels in Sapele Mahogany, and above the dado, cork tiles in their natural colors extend



THE MARBLE walls of the ground floor foyer (left) are indirectly lighted by a circular dome set in a sky blue ceiling. A wall of pink mirrors faces the main entrance. There are two staircases (top, right) which lead to the lower ground floor refreshment lounge (above, left) with its attractive facilities.



THE PROSCENIUM (above) is formed by two vertical columns with a porcelain finish in burgundy and gold, plus a mural depicting a marine scene. The proscenium curtains are a rich shade of gold. The screen (below) is capable of showing a clear CinemaScope picture, as well as other systems.



to the ceiling so that perfect sound is achieved. Egg-shell colored acoustic tiles line the rear walls, and the warm rust-colored ceiling is sprayed with asbestos fibre as a sound absorbent.

The imported Miracle Mirror screen commands the undivided attention of the audience—the auditorium's striking, clearcut lines combine with the subdued color motif and unobtrusive concealed lighting to focus attention on the screen. The screen itself is flanked by two striking vertical columns with porcelain finish in burgundy and gold, and it is surmounted by a marine mural in rust, yellow and grey, while the proscenium curtains are rich gold.

Two sets of stairs from the main foyer give access to the Royal Circle and the Circle through the large Circle foyer, with its handsome veneered panelled walls, refreshment bars and lounges, lit by recessed spotlights. There are two direct exits to the street from the rear of the circle.

The projection booth spans the full 80-foot width of the theatre. It is suspended on a steel girder and is outfitted by Westrex.

Air Conditioning

The huge air-conditioning plant installed in the 20th Century incorporates the very latest scientific and engineering features. Naturally, this is an important feature in any South African theatre.

The refrigeration plant installed has a cooling effect equal to that produced by melting 127 tons of ice a day. Two high speed Freon compressors, each driven by a 70 horse power motor, supply the cooling temperatures.

The air filters installed in this theatre remove dirt, dust and pollen from the air which is drawn into the system for ventilation purposes. This outside air, together with a portion of the returned air, is mixed and passed through the conditioning apparatus.

Automatically regulated by means of thermostats, the conditioned air is delivered from the processing apparatus into the various portions of the theatre by means of a large centrifugal fan.

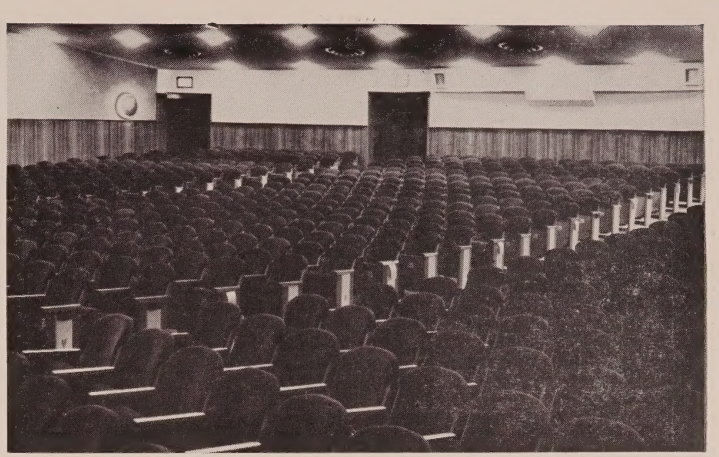
The main fan is capable of handling 41,000 cubic feet of outside air per minute. This means that there are 27 cubic feet of fresh filtered air for each member of the audience.

Openings are provided at strategic points beneath the seats, and another system of ducts connects these with a second fan system which disposes of the stale used air.

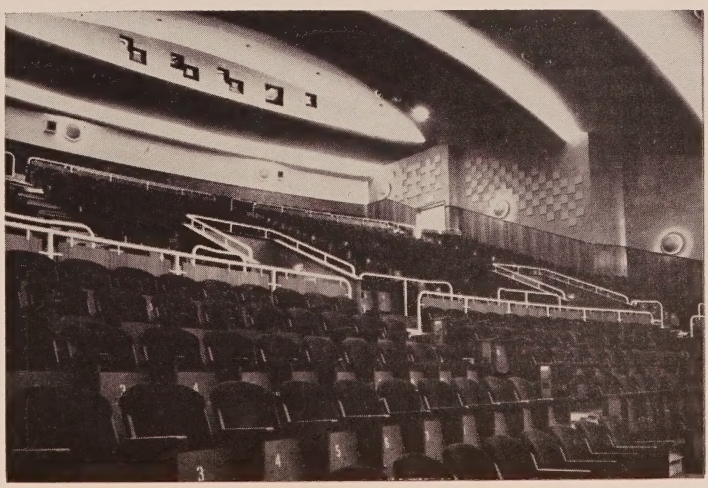
The screen has been tilted to enhance the CinemaScope presentation. Three speakers are located behind the screen and surround speakers are located in the auditorium.

The aisles are carpeted with rugs loomed in Durban featuring the 20th Century crest, but linoleum has been used between the rows of seats. All of the seats are rubber cushioned for patron comfort.

The opening of the theatre drew considerable attention throughout South Africa, with the local newspapers headlining their accounts of the occasion "Accent Is On Luxury And Comfort."



PICTURED HERE (above and below) are three views of the auditorium as seen from the front. The walls are lined with veneered panels in Sapele mahogany, and above the dado, the upper walls are lined with cork tiles in their natural color. Egg-shelled acoustic tiles line the rear walls. A novel feature is the incline of the ceiling at the back of the orchestra, under the royal circle and circle in the new house.



A Look At Tomorrow

A Glimpse at the Exciting and Unusual New Theatre Building Constructed At M.I.T. That Indicates What the Theatre of the Future May Look Like

BRIEF: *This article offers a description of the newest and most unusual theatre building to be constructed in recent years . . . Built at a cost of over one-and-a-half millions dollars . . . the Kresge Auditorium is completely equipped to show motion picture films . . . stage productions . . . concerts . . . lectures . . . television shows . . . and almost every other type of visual and audible presentation . . . The article describes some of the details of the complex lighting and light control systems employed . . . as well as the unique design of the building . . . featuring a roof dome that does not structurally touch the rest of the building . . . Although it is more of an experimental building than one which could be immediately adapted for commercial theatre application . . . it should be of value to theatremen who are interested in keeping up with the latest advances made acoustical treatment . . . lighting . . . and building design.*

Probably there isn't a motion picture exhibitor anywhere who would build a theatre just like the new Kresge Auditorium at the Massachusetts Institute of Technology in Cambridge, Mass., at this time, but it does hold interesting possibilities for future application of some of the features.

Some Bostonians who saw the building when it was completed last May, said, "It looks like a woman's Summer hat." They thought a new, cylindrically shaped Chapel nearby, might easily be mistaken for an incinerator. But the auditorium isn't much like a woman's hat. It is designed for motion pictures, stage shows, concerts and television and it includes many forward-looking innovations.

Exciting Experiment

Professors, students and staff of the internationally famous engineering and architectural college declare it a "Breath-taking and exciting experiment." It certainly is all of that. Because it is up to academicians to lead the way, the novel and interesting features introduced in every part of the theatre make it a worthwhile study for motion picture exhibitors who want to know what will be new in tomorrow's theatres.

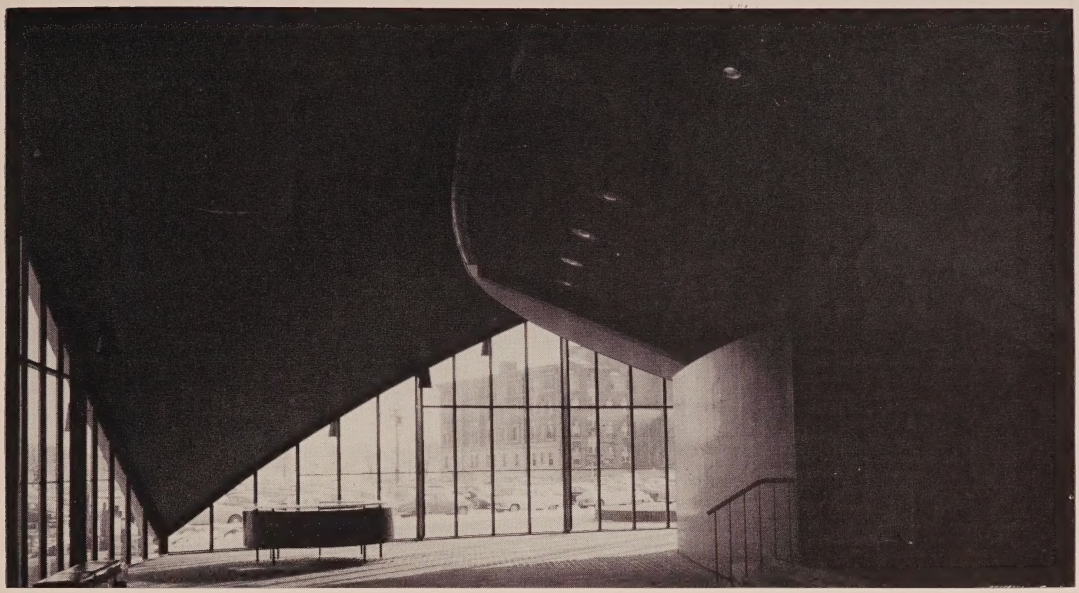
A good starting point is the light control equipment, so designed as to make it possible to dim house and stage lights and control any of nine banks of spots and floods from either the projection booth or a specially-built stage manager's desk. All electrical units were built by Kelek Manufacturing Company of Boston, using Luxtrol light control units made by The Superior Electric Company of Bristol, Conn.

Complete Lighting Facilities

Any degree of lighting can be achieved in any portion of the house. During the showing of motion pictures, house lights are dimmed to a degree that leaves some illumination for the audience. It has been found that a small amount of illumination left in the house during daytime showing overcome the headaches and dizzyness that many persons complain about when they step out into daylight.

The lighting in the large auditorium consists of incandescent and fluorescent

THIS PANORAMIC view of the building shows the triangular curved slab of concrete that serves as the roof of this unusual auditorium at MIT.



SEEN ABOVE is an interior view of the Kresge Auditorium. A dramatic and beautiful effect has been achieved with the bold use made of concrete and glass. It is interesting to note that the concrete dome is not structurally joined to the rest of the building. It is separated by metal slip joints.

lamps controlled by banks of motor-driven Luxtrol light controls, incorporated in a Kelitrol stage switchboard, and operated remotely from Kelitrol pilot consoles in the projection booth and back stage.

A Kelek distribution switchboard, located in the wings, houses circuit breakers, the Luxtrol autotransformer light controls and relays which are remotely operated from the booth console and the stage manager's desk.

All the auditorium and house lighting is controlled from the projection booth console. This unit is situated high in the rear of the auditorium allowing a panoramic view of the stage and house. From this booth the operator can operate the movie screen, stage curtains, and preset all motor-driven Luxtrol light controls. It is possible to automatically transfer control to the portable stage manager's desk in the wings. The operator in the projection booth can also take over control whenever he so desires. Visual indication by pilot lights indicates who has control at any time. Intercom and cue signals allow the operators and associated personnel to keep in constant touch during the program.

Cove, house uplights, stage panels, and wall lights are controlled and operated at both locations. This lighting is a combination of incandescent and fluorescent, dimmed simultaneously by synchronizing the light control equipment.

Additional special lighting effects may be obtained by patching portable dimmers into the various circuits. A patch panel for this purpose is located in the wings adjacent to the stage manager's desk.

In general, the dimming equipment consists of various motor-driven Luxtrol light controls.

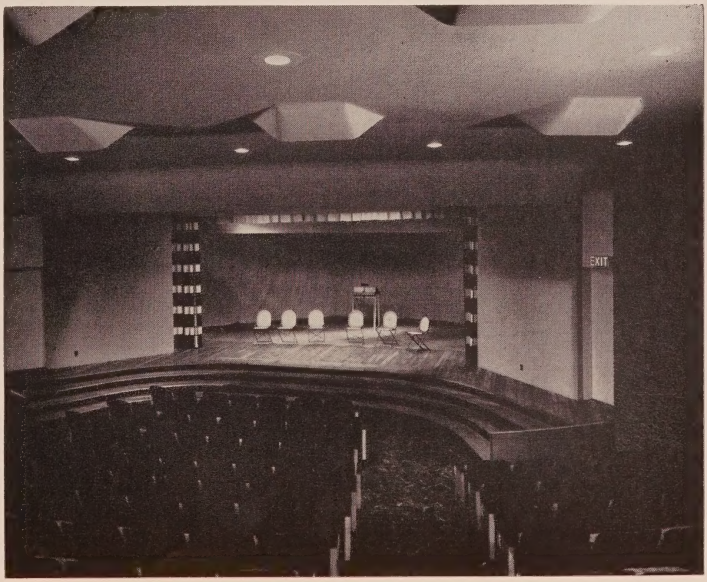
Most Unusual Feature

The most unusual feature of M.I.T.'s new Kresge Auditorium is its domed roof, or shell — a curved slab of concrete, triangular in shape. If you should cut out a three-cornered piece from an orange peeling, representing one-eighth of the total surface, it would have the proportions and shape of the dome.

The dome is not structurally joined to the rest of the building. The tops of interior walls are separated from the dome by metal slip-joints which permit space being filled by rubber gaskets. Steel window frames are joined to the dome by metal slip-joints which permit slight movement.

This movement is necessary because there are varying rates of expansion and contraction in different parts of the

A VIEW of the auditorium from the rear. Notice the rectangular baffles on the ceiling. They are one of the many acoustical devices that have been employed to make the auditorium acoustically perfect.



Type of Lighting	*Motor-Driven Luxtrols*	
Apron and Stage Panel Downlights	1	4,000 watt
	1	5,000 watt
Platform Solo Spots	1	10,000 watt
Cove House Lights	1	4,000 watt
Stage Panel Lights	1	6,000 watt
Niche Spots	1	4,000 watt
Platform Solo Spots	2	4,000 watts
Platform Solo Spots	1	10,000 watt

dome, depending on the weather and the position of the sun. The dome "breathes."

The concrete shell is only three and one-half inches thick — thinner in proportion to its area than the shell of an egg. On top of the concrete, however, are a two-inch layer of cinder concrete, a felt membrane, two inches of glass wool and an asphalt fabric. Yet to be applied is a quarter inch layer of acrylic plastic mixed with Fiberglas, beach sand and other ingredients, which will give the dome a color similar to that of weathered limestone.

These layers will total about eight inches in thickness at the top of the dome (near the base, the concrete shell is as thick as 20 inches). The various layers will not only serve to insulate the interior from cold and heat but also from outside noises, such as the sound of airplanes.

The dome's total live load of 1,500 tons is borne by its three corners, each of which stands on a massive concrete buttress sunk into the ground.

At each of the three corners, the dome tapers into a heavy steel pintle, which rests on a steel bearing, so that the whole dome can move, though ever so slightly, in relation to the ground.

The Interior

The auditorium seats 1238 people. Backs of seats, in three shades of green, two of blue and one of orchid, give an unusual chromatic effect. The huge stage has room for 250 musicians.

Since the domed ceiling would tend to focus sound in certain parts of the auditorium, various acoustical devices were employed so that every member of the audience might hear well. Most important of these devices are "clouds" rectangular baffles suspended from the dome to diffuse sound.

Extensive testing of acoustics has been conducted. The layman cliche, "you can hear a pin drop" actually applies. A pin dropped at any point on the stage can be heard throughout the auditorium . . . providing the audience is quiet enough.

The clouds also serve to mask ventilating, lighting and sound equipment. A row of 15 spotlights not far from the center of the dome can be reached by a catwalk above the clouds.

Although speeches and concerts on the stage usually will not require amplification, there are loudspeakers in the clouds above the stage. These include a "tweeter" and a "woofer" for high and low frequency sounds and can be used for radio, recorded music and sound movies.

At the rear of the auditorium is a carefully engineered, fire-proof projection booth, with lighting and sound controls and a motion picture projector. There is a soundproof booth for an announcer and there are two optical glass ports for television cameras.

The needs of television were carefully taken into consideration in the planning, and the auditorium is one of the few buildings today with an abundance of "built-in" television facilities. As many as six TV cameras can be used at one time for the recording of a performance.

There is a television wiring within the walls of the auditorium which will enable cameras to be "plugged-in" at various points. A cable runs underground to the nearby WGBH-TV studios. Television control trucks from other stations can be parked at the rear of the auditorium with easy plug-in connections with cameras inside.

Construction of the auditorium was made possible by a gift of $1,500,000 from the Kresge Foundation.

Architects were Eero Saarinen and Associates, in association with Anerson and Beckwith of Boston whose senior members are M.I.T. professors of architecture. Acoustical engineers were Bolt, Beranek & Newman, Inc. The general contractor was George A. Fuller Company of Boston.

THE AUDITORIUM has an elaborate and complete lighting system and can be controlled from the projection booth console, seen below. The lighting consists of incandescent and fluorescent lamps controlled by motor-driven light controls. Any degree of lighting can be achieved with this system.

The Theatre Industry In Mexico

Motion Picture Theatre Construction and Remodeling as Well as General Industry Conditions in Mexico are Reviewed Here

BRIEF: ***One of the nations currently undergoing a postwar construction boom is Mexico . . . Part of this boom has . . . of course . . . made itself felt in motion picture theatre construction and remodeling . . . This article describes general conditions to be found in Mexico today in connection with the number of Mexican and foreign films shown . . . Mexican film production . . . the number of theatres operating in Mexico . . . total seating capacities and estimates of earning power . . . In addition . . . there is a description of the leading new theatres that have been constructed . . . with the information broken down by city so as to make it easier to locate specific data . . . This article should be of interest to all theatremen . . . and others in the motion picture industry who know that there is much that can be learned by studying the theatre activities of other countries.***

By JORGE C. SANCHEZ
Westrex Company, Mexico

Tomes could be written to describe the feverish activity in theatre construction and remodeling as a part of Mexico's postwar construction boom. The flurry of activity goes on full force.

The advent of CinemaScope in Mexico's movie industry brought about a problem of serious and grave concern to the theatre owners. Great construction projects went into full swing immediately to adapt existing theatres to CinemaScope, and new theatres were built to incorporate the latest techniques in motion picture presentations. Following the pace set by the United States theatre construction industry, Mexico is now considered the second country in converting rapidly to CinemaScope.

Approximately 30 theatres have been equipped for CinemaScope in Mexico City alone with stereophonic sound.

Modern Theatres Mushroom

Modern, safe new showcases mushroom in the places where old theatres once stood. Residents of the better districts, too, enjoy their share of the benefits of the new pace in the industry, and no longer have to go "downtown" to view outstanding premières. Today, beautiful artistic buildings, conveniently located for all residents in Mexico City offer the latest films from the local studios, Hollywood, Spain, England, France, and other countries.

Latest Statistics

The latest statistics available show a total of 2,435 theatres in the country with a seating capacity for 1,600,206 spectators.

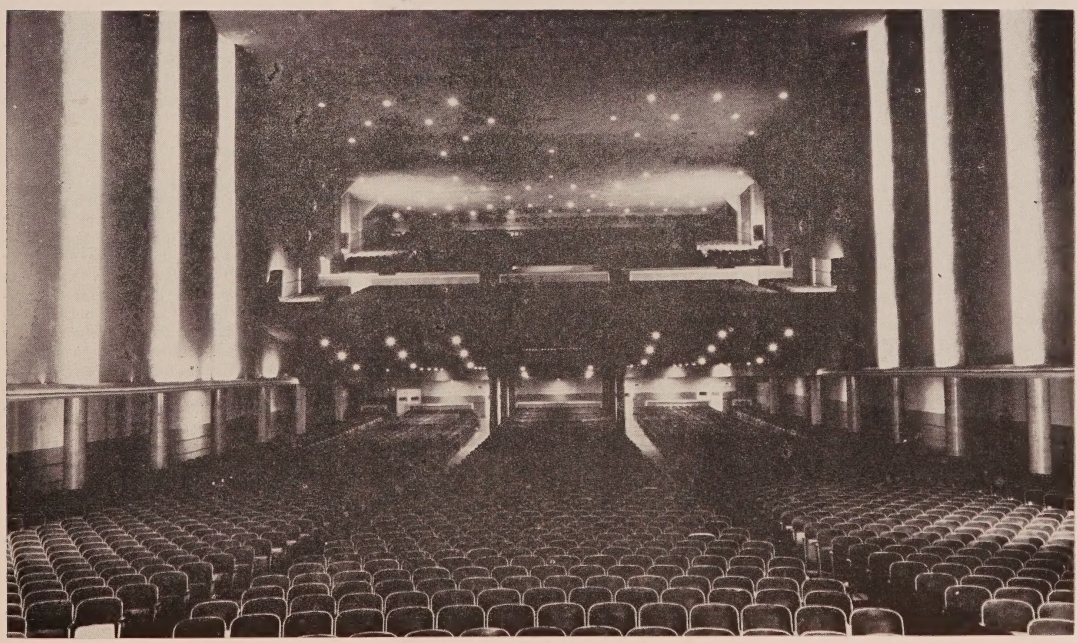
Government aid has enabled the local industry to produce better films, and Mexican pictures have taken prizes in many international festivals. Mexican actors are also going abroad to compete in the foreign fields against figures of international renown under contracts offered by the film industry in the United States, England, Spain, Frances, and Italy.

American producers filming in Mexico have been a great aid to the national industry, and have bolstered, to a certain extent, the national economy with dollar revenue.

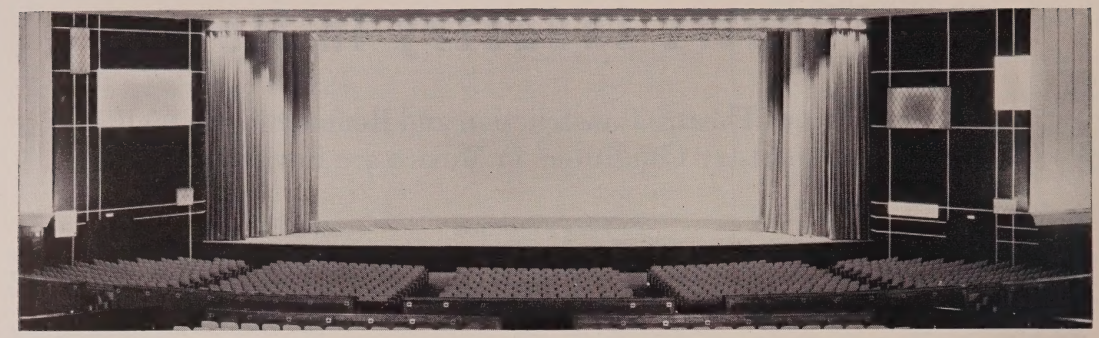
MEXICO CITY

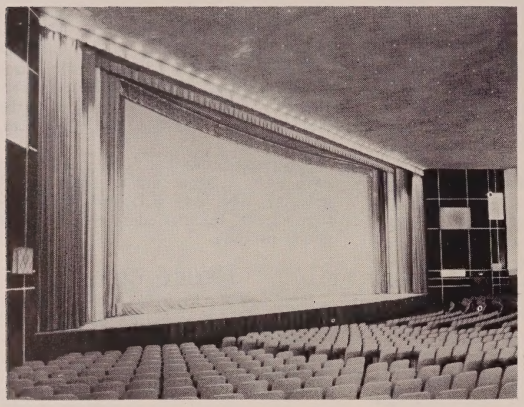
Bustling Mexico City with its three million population is the center of all motion picture activity and theatre construction in the country. Films from the Churubusco, Clasa, and other local studios compete with the international industry both here and abroad.

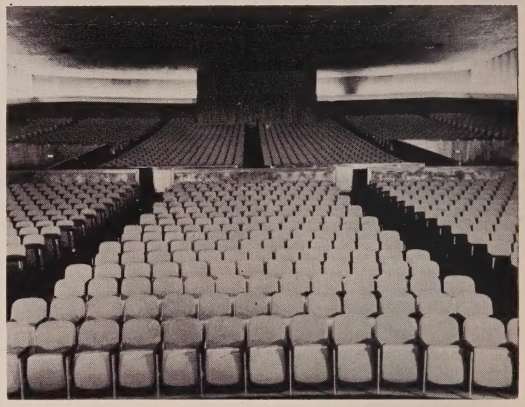
The latest figures available show a total of 130 theatres, not counting alternating stage and screen showplaces, with a seating capacity of 267,943.



THE CINE Florida, in Mexico City has a seating capacity of over 6000 persons, and it is said to be the largest theatre in the world.







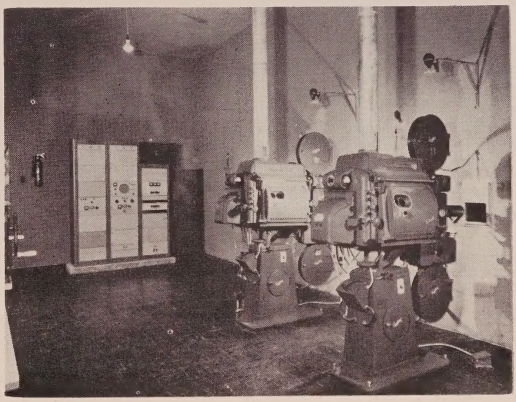
SEEN HERE are pictures showing various areas of the Polanco Theatre, one of the newest indoor theatres constructed in Mexico City. The theatre has a seating capacity of 2800 on one floor. Especially designed to show such systems as CinemaScope, the theatre has a 75 foot wide screen and is equipped for magnetic and optical magnetic sound. The building is built off the ground and offers parking space for patrons underneath the building.

The city claims to have the largest motion-picture theatre in the world, Cine Florida, with a seating capacity for 6,000. This theatre was recently converted to CinemaScope and Perspecta sound with the latest model of Westrex equipment. The screen installed is 60 feet wide.

New Theatres

Pride of the city's theatre industry, however, is the recently inaugurated Cine Polanco. Located in one of Mexico's finest residential districts, the showcase caters to the most discriminating customers from the city's suburban population, such as those from Chapultepec Heights, Polanco, Chapultepec-Morales, Anzures, etc., although its location attracts many movie-goers from other distant areas of the city. No cost was spared in making this theatre the finest in comfort and in luxury. The theatre owners can rightfully boast that their establishment can meet the demands of the most exacting customer.

Built by contractor A. M. Chelminsky, a young graduate of the National School of Engineering of Mexico's National University, the Polanco stands somewhat above the ground to offer ample parking space facilities to its customers at street level. Parking is, incidentally, one of the city's most acute traffic problems.



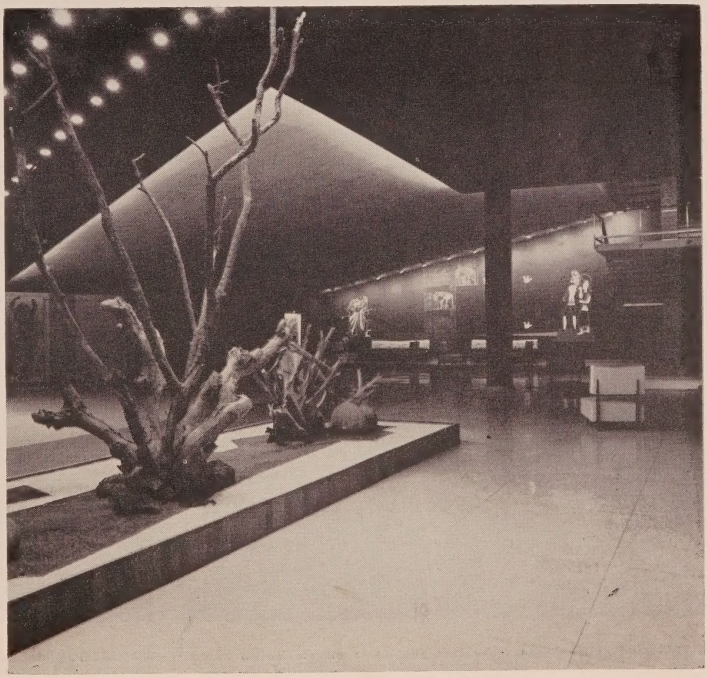
THE SPACIOUS lobby of the Polanco includes among its facilities a soda fountain, ornamental furnishings and built-in billboards. The men s wash rooms are tile for cleanliness and appearance. Hot air automatic hand dryers are used. The large projection booth is equipped with Westrex multi-channel sound system. Century water cooled projectors and Ashcraft arc lamps are also used. The lobby is particularly well furnished and attractive.

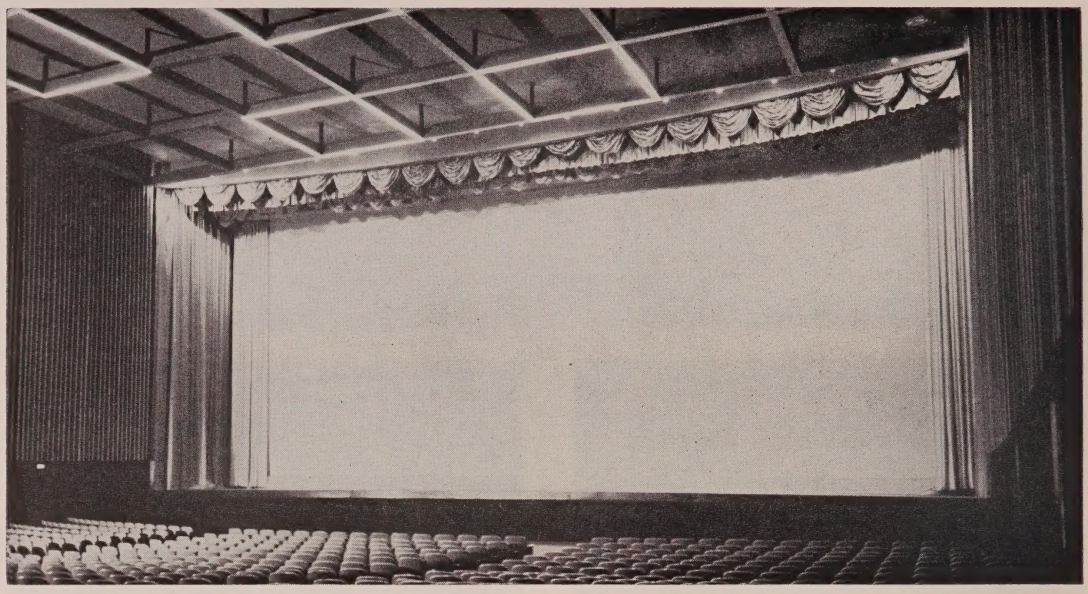
A 75-foot wide screen offers enjoyment to the patrons at the Polanco with a seating capacity of 2,800 on one floor. The theatre was planned especially for CinemaScope, and has installed modern Westrex magnetic multi-channel equipment, as well as Perspecta sound. Thirty speakers were distributed in the auditorium to reproduce the special effects of the fourth magnetic channel.

The showroom was planned and built with a simple design intended to avoid distracting the spectator. The lobby, built in a beautiful new design, offers an ample polished granite floor, a spidery stairway leading to the upper part of the auditorium, modernistic furnishings and decoration. The same beautiful designs were incorporated in the soda fountain installed in the lobby. The walls were covered with specially-designed Italian plastic-like wallpaper to avoid tear and wear, and to cut down maintenance and cleaning costs.

Cine Sonora is another new theatre, and one of the best in the city. This theatre was built by Miguel Giralt, one of Mexico's leading theatre builders.

The Sonora is located on a busy thoroughfare in a heavily populated district of Mexico City. The building offers underground parking facilities for 200 cars, and has a single floor with a seating capacity of 3,600 patrons .





ANOTHER OF the outstanding new theatres to be constructed in Mexico City, is the Cine Jalisco. This theatre has a seating capacity of 3000 and also provides underground parking facilities. The auditorium has a 72 foot Raytone screen, and is equipped to show the latest wide screen film offerings.

The theatre is equipped with modern Westrex equipment for CinemaScope with magnetic multi-channel and Perspecta sound. This theatre has 80 watts per channel, and the backstage loudspeakers are of the revolutionary "Acoustic Lens" type. The screen is 80 feet wide and allegedly the largest installed in an indoor theatre. Forty surrounding speakers were installed for the fourth channel repdoduction.

The Sonora was built in a record-smashing time of 180 days, including planning, drafting by architects, building estimates, and actual construction of the building.

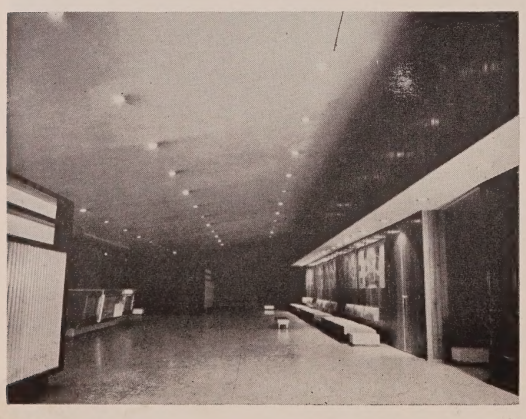
More Theatres

Cine Jalisco, owned by the same company as Cine Sonora, was also built by contractor Miguel Giralt and follows more or less the same patterns in construction and design. It stands in one of the middle-class residential districts toward the southern end of the city. The theatre has a seating capacity of 3,000, and underground parking facilities. The screen is 72 feet wide. Equipment in this theatre was installed to provide for multi-channel magnetic and Perspecta sound reproduction. Thirty-two speakers were installed in the auditorium. Its architecture is of modern design, and it is one of the first theatres planned and built for the modern projection and sound systems.

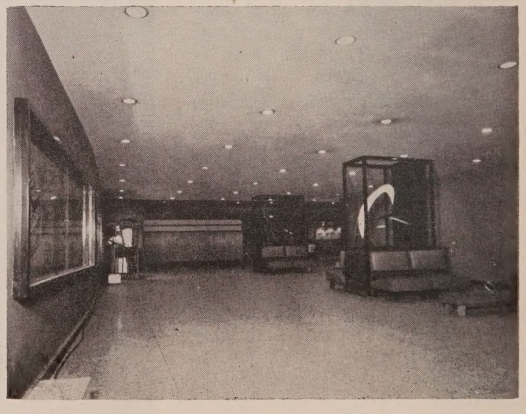
Few residents of Mexico City are aware of what is happening to one of the old favorite theatres once located in the heart of the city on one of Mexico's busiest, if not the busiest thoroughfare, Avenida Juarez. The old Cine Magerit is in the process of demolition and a new theatre under construction where it once stood. The new showplace will be called "Cine Variedades."

Three crews are working in three eight-hour shifts to demolish the old and build the new theatre. However, the heavy traffic of Avenida Juarez does not allow for much hauling activity in the daytime and only those passing by late at night or in the early hours of the morning see the trucks carrying building materials and removing debris.

The new theatre, when completed, will be one of the very best in Mexico City and plans call for all modern conveniences. It will have a 66-foot Cinema-



IN THIS view of the Jalisco lobby it is possible to see the built-in billboards. The seats are on a single wooden beam with backs built into wall.



THIS SECTION of the lobby shows off the granite floor and the modernistic decoration and furniture. The layout is designed to keep patrons moving.

Scope screen, with sound and projection equipment installed by Westrex.

Major theatre operators and owners are the three chain organizations operating in the Federal District. Each of the three organizations operates through agencies in the interior of the Republic. Approximately 60 of Mexico City's 130 theatres are operated by the three, namely, Cadena de Oro, Operadora de Teatros, and Teatros Nacionales.

All theatres in Mexico work with films contracted from distributors of the local studios and representatives of foreign movie picture industries.

Ample Film Market

The taste of the Mexican movie fan varies widely and there is an ample market of great range as far as classification of films and their popularity is concerned. There are many of the public who give special preference to the national industry. Mexican films, too, offer a wide variety, and there is no such thing as a typical style. There are many demanding spectators, and the national industry is well-prepared to meet their demands by offering quality production with films that have won, and are winning first places in festivals, and heavy applause in Europe against such well-established industries as the Italian, French, English and American.

American Product Strong

The national industry has been able to service 40 per cent of the local market and the other 60 per cent of the films shown in Mexico are foreign. A further breakdown of the films shown in this country shows that approximately 42 per cent of them originate in Hollywood, while the French and Italian movie industries each have four per cent of the market. Spanish producers, although only recent entrants, have also been able to get four per cent of the market, followed by the English, German and Japanese combining to hold another four per cent. The rest goes to Argentina, Russia, and other nations who occasionally manage to break into the market.

There are nine American producers with representatives operating in Mexico; these are: 20th Century Fox, Metro Goldwyn Mayer, Paramount, Columbia, Warners, Universal-International, RKO, Allied Artists, and United Artists. English films in Mexico are distributed through American companies.

Three theatres, Prado, Paris, and Arcadia are exclusively devoted to European films in Mexico City, although some other theatres also show European films.

According to statistics available at this time, theatre construction investment in Mexico represents some 750 million pesos, with 150 millions invested in Mexico City alone.

The northern border state of Baja California has the heaviest revenue obtained from theatre goers, with an income of something like 16 million pesos or more spent annually by motion picture fans.

The 264 theatres in the state of Jalisco, capital Guadalajara, put the state in the lead as far as the number of movie houses is concerned, however, these 264 theatres have a seating capacity of only 145,000 as compared to the 267,000 capacity offered by the 130 theatres in Mexico City. Long lines often stand on a Sunday or holiday waiting for spectators to leave the theatre so they might enter in the same numbers as those leaving.

Monterrey

Capital of the state of Nuevo Leon, the city of Monterrey has long held first place in Mexico as an industrial center. The capital has a total of 46 theatres. The theatres have a total seating capacity of approximately 630,490, and theatre revenue in Monterrey reaches a sum slightly over a million pesos a month. The leading theatres are: Elizondo, Reforma, and Encanto.

Merida

Capital of the state of Yucatan in the far south of Mexico, Merida has often been called the "White City" because of the many white buildings and the cleanliness of the city and its population. The city has 26 theatres with a total seating capacity of approximately 200,000. Cine Cantarell is the leading theatre establishment in Merida.

Guadalajara

State capital of Jalisco, Guadalajara may easily be termed one of Mexico's most picturesque and tradition-bound cities. The women of Guadalajara have long been acclaimed for their beauty. The city is also famous for its typical musicians, fiery-hot "Tequila," and beautiful earthenware for the kitchen as well as for decorative purposes.

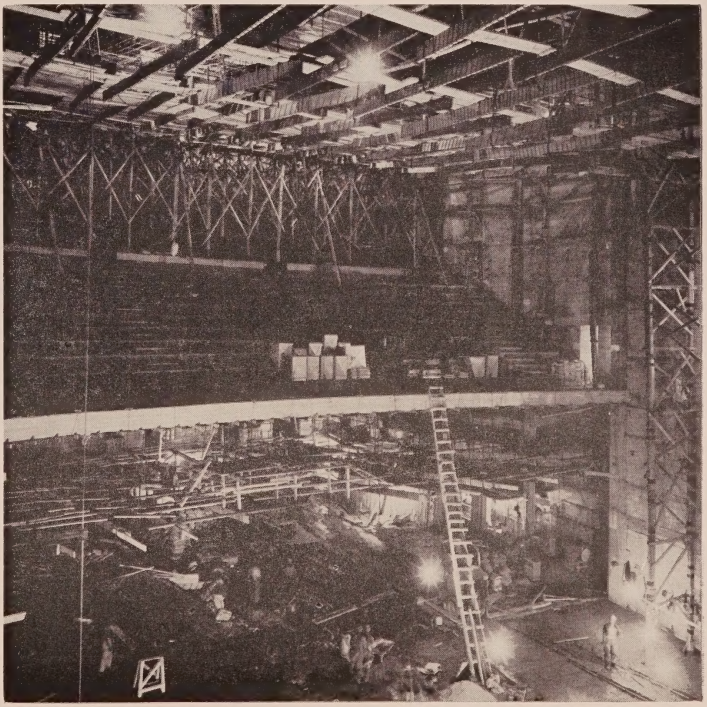
Guadalajara has 17 theatres in all, with a seating capacity for over 350,000. Theatre revenue in Guadalajara is about a million pesos per month.

Leading theatres in Guadalajara are Cine Alameda, Juarez and Variedades.

Puebla

Capital of the state of the same name, Puebla now has seven theatres and deep interest is placed in the theatre industry. The city is one of Mexico's leading industrial centers. Some of the nation's most famous traditions originated in the beautiful city of Puebla.

Pride of the theatre industry in Puebla is the "Cine Puebla" now under construction at one of the leading thoroughfares of the downtown section in the commercial zone. The theatre is planned to hold a leading place in beauty among Mexico's luxury theatres. It will be able to seat 2,800 persons, and will be equipped for CinemaScope and magnetic stereophonic sound, with the auditorium divided into two sections, upper and lower floors. Access to the Cine Puebla will be gained through a great stairway forming part of the famous old manor "Casa del Dean," one of the architectural gems of the 16th Century, with famous murals covering its walls.



PRESENTLY UNDER construction is the Veriedades Theatre in Mexico City's down town section. The theatre is being built on the site of the Cine Magerit, one of the famous old Mexican houses.

The SDG Theatre

The Recently Constructed Screen Directors' Guild Building Houses an Outstanding Theatre with Many Unusual Design Features

By ARTHUR FROEHLICH
Architect

BRIEF: *This article . . . prepared by the man who designed the project . . . describes the recently completed Screen Directors' Guild Building . . . in Hollywood . . . One area which is of particular interest to theatremen is the unusual and striking theatre which has been built for the use of the membership . . . There is an interesting explanation of why the auditorium made use of a "reversed" design . . . the "all media" screen . . . and the special frame which was designed and installed to hold it . . . a description of the equipment to be found in the spacious projection booth . . . and many other interesting views on the modern and functional design of the theatre . . . and the entire building . . . There are many things to be found here which could easily be adopted or adapted for use in a new theatre . . . or one undergoing a major remodeling job.*

When we began designing the Screen Directors' Guild Building, we had a lot of ideas in mind, and a lot more requirements to fulfill. Being a building to house a particularly newsworthy and outstanding group of men, we knew from the outset that we wanted to create a theatre that was as close as possible to being the last word in design.

Reverse Design

In general, the theatre part of the SDG Building is built opposite in design to the conventional movie theatre. Conventional houses are roughly cone-shaped, with the narrow end at the screen and the wide end housing the projection room and the balcony. Because of the requirements of the SDG Theatre, and the numerous uses to which it had to be put, we designed in reverse: that is, the narrow end of the cone is at the projection end and the wide end toward the screen.

This established, right from the beginning, something very important—a relationship between the viewer and the screen that is more than twice the ratio of any theatre that we know of. Our spectators, in a relatively small theatre, are conscious of a huge screen, imposing on them a grandiose feeling of prideful involvement with their own medium.

We were well aware that the theatre does not take admissions, and that box-office considerations might materially affect our point of view in design, but still we wanted to create an "ideal" theatre for the SDG.

Basic Requirements

In general, then, before we get into the technical aspects of the theatre, let me explain some of the requirements of the SDG Building that we had to take into consideration, and then follow up with the theatre in more detail.

The building was to contain the executive and administrative offices of the SDG, and had to be pleasant and modern, with facilities for secretarial help, conference rooms, an exhibition gallery, a library, files and so on. The theatre had to serve not only as a top-notch motion picture auditorium in which the finest product could be shown, but it also had to serve as a meeting hall, lecture room, possible television studio, theatre for stage productions and screening room. Anticipating the screening of television film and perhaps even televising from this same area, we had a good deal we had to consider.

We also had to consider the matter of parking in the area where the building is located. Fortunately, this was solved by working out arrangements for the use of large adjoining parking areas in the neighborhood on nights when there were events in the theatre. A

THIS OVERALL exterior view of the new Screen Directors Guild building illustrates the beauty of the modern design which has been utilized.

total of over 400 cars can be parked in the immediate vicinity of the theatre.

Main Features

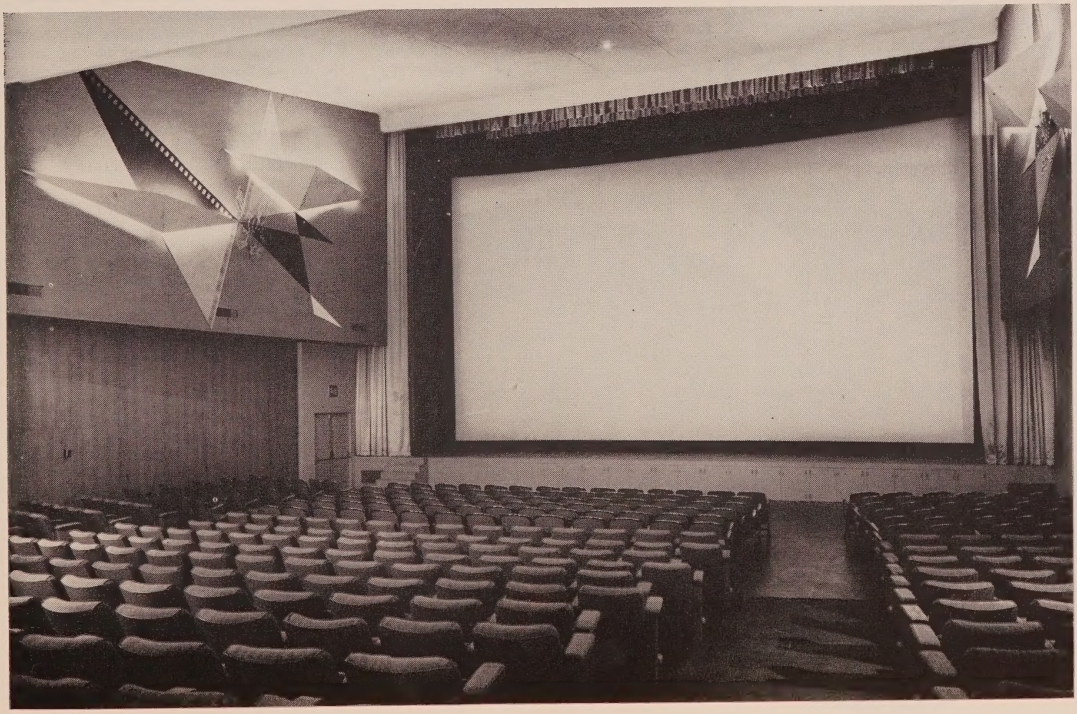
Perhaps the two main features of the theater are its special "all-media" screen, and flexibility as a meeting hall. The theatre has 283 permanent seats, with provisions for an additional 152 temporary seats. Through the use of a folding wall, the front portion of one of the sides can be opened and additional seats can be placed in the adjoining hall and library for meetings.

The folding doors permit the use of a large area for added seats. As a result, close to 700 people can be accommodated for a meeting. This additional area can be integrated with the theatre proper for banquets and dances.

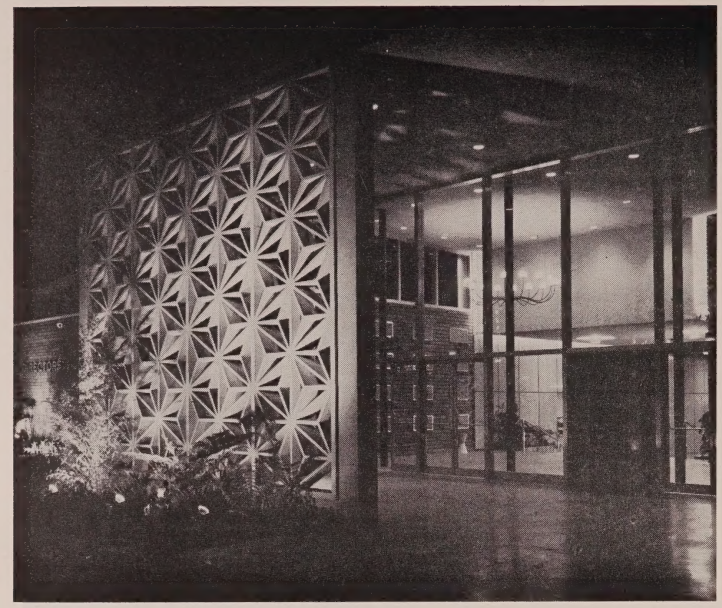
The total building area is 18,500 square feet, and provisions have been made for an additional 3000 square feet on a future second floor.

In addition to its own screening requirements, the Guild is making the theatre available to other industry groups for press screenings, special film forums and the showing of experimental and foreign films. As indicated above, it will also be available for television use.

The shape of the theatre, because of the requirements mentioned previously, is unique. It is 27-feet high at the foyer entrance and the roof slopes upward to a height of 45-feet at the stage end of the building. Abstract murals, depicting the Guild insignia and a motif of film, are on the side walls, and are lighted from behind.



ONE OF THE outstanding features of the auditorium is the use of abstract murals depicting the Guild insignia (above). The theatre (below) has a special screen frame designed for versatility.



THIS NIGHT view of the entrance emphasizes the delicate design used, and how it is highlighted by the use of properly placed lights.

The slope of the floor in the theatre is two and one-half feet in 50-feet, or five-per cent. The seats are 25 inches wide and are fully staggered for perfect viewing. The temporary seats are made from the same material as the permanent seats for complete comfort and are in banks of four. The proscenium opening goes the entire width of the house. The walls are of painted brick, with an acoustical plaster ceiling, and carpeted floors. A gold fabric was used for the main curtain, and lighting fixtures are decorative brass and very large.

Special storage space for the temporary seats and other equipment is located under the stage. The stage can also be enlarged for television and theatrical productions through the addition of removable sections.

The projection room is very large. In addition to housing the needed projection equipment it contains a film vault for the storage of 20 feature length films. A section has also been provided for a television booth, particularly for recording purposes. A large door on one side of the booth permits the moving in of equipment from the outside of the building.

The theatre's projection booth is equipped with two Motiograph Triple A projectors; two Ashcraft Cinex 170 arc lamps; two Motiograph Model SH-7500 reproducer optical sound heads; two Motiograph Triple A magnetic sound heads for four track, and separate gain controls for all modes of operation. The amplification in the booth consists of an Altec Lansing 150 C magnetic four track preamplifier; four Altec Lansing 1530-T 75-watt power amplifiers, and an Altec Lansing Model A integrator for reproducing Perspecta Sound. The booth also contains the latest Eastman equipment for the presentation of 16mm sound film projection.

The sound equipment in the theatre consists of three Altec Lansing "Voice of the Theatre" loudspeakers backstage and four Altec Lansing 604 C speakers mounted in the ceiling in the auditorium proper. Provisions have been made for the installation of two additional speakers backstage at a future date.

All-Media Screen

The theatre contains the first "all-media" screen ever developed. It is mounted on a special frame, permitting the projection of CinemaScope, VistaVision, SuperScope, Todd-AO and regular 35mm and 16mm films. The special frame contains eight locking racks enabling screen adjustment to the various curvatures which characterize each process. Springs on sides and bottom hold the screen firm. The depth of curvature may be changed from three-feet to 10-feet as desired. The frame was built by the B. F. Shearer Company. It measures 30-feet by 54-feet. The screen, a Raytone Super-Hilux, will take a picture 28-feet by 52-feet.

The area between the stage and first row of permanent seats is 58-feet by 32-feet, and in addition to allowing space for cameras or for temporary seating, can be used for banquet facilities or dancing.

In order to screen off the lobby and the gallery (which runs at right angles to the street and would normally be visible to passersby), a large decorative concrete grille was built screening this area from public view and separating the foyer from the street both visually and physically. The grille area is roofed.

In the lobby, the brick wall between it and the offices is perforated with translucent inserts to provide light to certain work areas behind these walls. This provides a pleasant decoration in the lobby itself.

There is a mosaic tile mural in the theatre foyer. The doors are aluminum and the flooring is terrazzo.

THE BRICK wall in the lobby is perforated with translucent inserts to provide light for the work areas that are located behind these walls.

CONSTRUCTION and MATERIALS

1955-56

Acoustics and the Theatre

The Advent of the Wide Screen and 3-D Forms of Film Presentation Has Increased the Importance of Proper Acoustics in the Theatre

By George I. Smith
Acoustical Materials Association

BRIEF: ***There can be little doubt that today the importance of having a theatre properly treated acoustically cannot be overlooked by theatremen . . . It is wholly within the realm of possibility that an exhibitor may spend thousands of dollars to obtain the finest projection and sound equipment . . . and still not get the results that he is entitled to expect . . . It is the purpose of this article . . . which has been prepared by one of the leading experts in the field of acoustics . . . and acoustical materials . . . to give the reader a better understanding of the fundamentals of proper sound conditioning . . . Another aim is to offer specific suggestions about auditorium design . . . the types of material to use . . . areas requiring special treatment . . . etc. . . . Although it is not expected that this story will provide an exhibitor with all of the information he might require in order to determine what his theatre needs in the way of acoustical treatment . . . it should give enough data to enable the reader to make a more accurate appraisal of his particular situation.***

The various wide-screen cinematic developments of the last couple of years place new emphasis upon the importance of proper acoustics in today's motion picture theatre, whether it is a large presentation house or a small neighborhood situation.

Illusion of Presence

To a considerable degree, these new techniques depend upon the accompanying three-dimensional or stereophonic sound for their illusion of "presence." This is particularly true of the wide-screen film, which achieves its effect of "surrounding" the viewer by means of a panoramic sweep of sound no less than of its panoramic pictorial sweep.

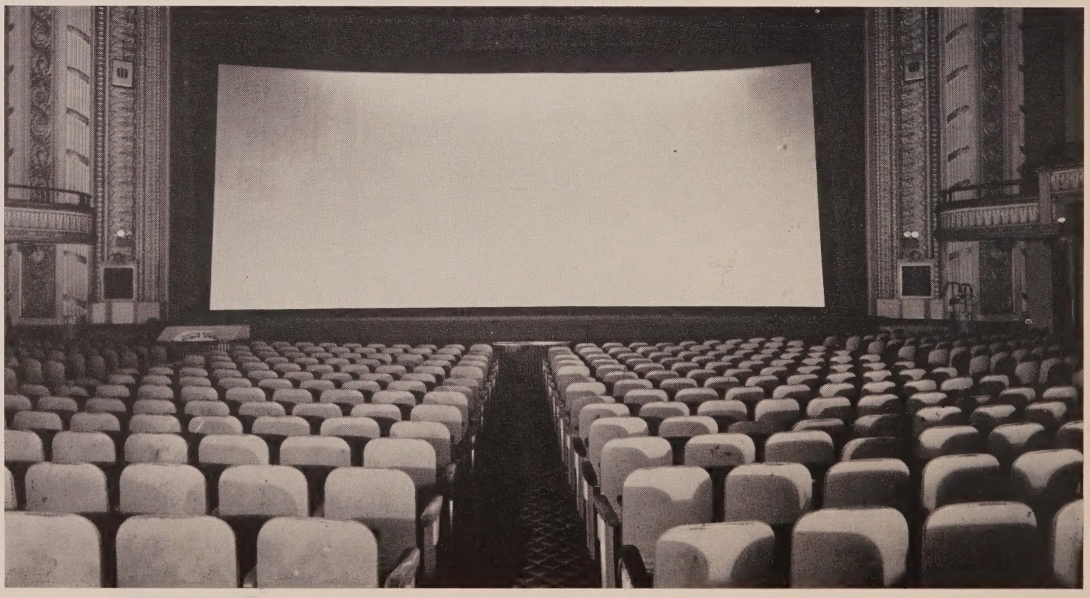
It goes without saying that the viewer should be able to hear—and hear distinctly—from any seat in the place, just as he should be able to see the screen without any intervening obstructions. In the past, unfortunately, many exhibitors have been remiss in attending to this elementary acoustical must; there are spots in all too many theatres where speech from the screen is difficult to understand, especially at "off" hours when there is any appreciable number of empty seats.

But now it is no longer enough that the viewer merely be able to hear and understand; the sound must be so clear that his ears can tell him it is coming from this side or that, or mid-way, not just that it is coming from somewhere at the front of the theatre. If a military band marches across the scene from left to right in a 3-D or wide-screen picture, the music should march across the screen with it, unmistakably, for every person in the theatre—the people down front, those halfway back, those in the rear and those in the balcony, regardless of whether they are sitting in the center or on one side.

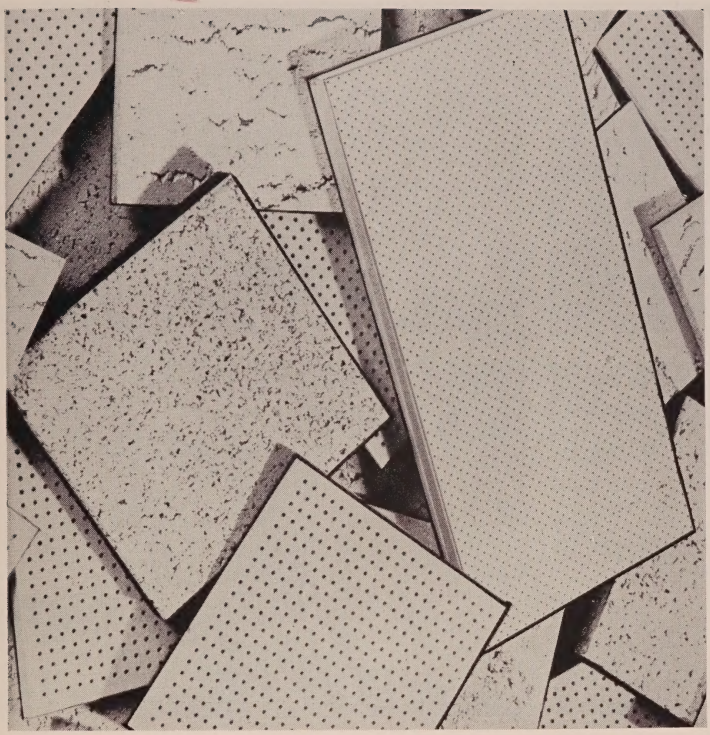
Control Reverberation

Actually, this raises no new acoustical problems. But it does sharpen the fundamental one, which is to limit and control reverberation so that there is just enough to give a pleasing "live" quality to music and speech, and not enough to blur the original sound in any part of the room.

In the case of the old style, conventional sound film with its single sound track, this left a considerable margin of flexibility. Syllibication tests show that adults at least can understand speech completely if they hear distinctly only 75 per cent of isolated syllables uttered into the room; they fill in the gaps from the context. Thus, the audience may be able to understand speech from the screen under hearing conditions that fall far short of perfection. But although the reverberations are not bad enough to blur the star's words into incomprehensibility, they still can blot out the three-



WITH THE ADVENT of wide screen systems, such as seen below, the matter of acoustics in the theatre requires more consideration than ever.



ACOUSTICAL MATERIALS, as seen on the left, are available in various shapes and forms. All of them, however, are capable of doing a good job.

dimensional effect by making it impossible for the listener to follow the movement of sound across the screen.

Good acoustics is partly a matter of auditorium design, but chiefly a matter of providing the necessary amount of sound absorption in the right places by means of carpeting, upholstered seats and the like, plus suitable acoustical materials properly installed.

Architectural Acoustics

The science of architectural acoustics was well advanced long before commercial advent of the talking picture, but what would be good acoustics in a concert hall or legitimate theatre might not pass muster in a movie house. Even the suburban or neighborhood movie is apt to be larger than the legitimate theatre, which must be small and "intimate" enough for the actors' voices to be heard without amplification even in the back row of the top balcony. Moreover, the larger-than-life characters on the screen, even in the small theatre, must have proportionately larger-than-life voices to be credible if not indeed to be merely intelligible; and all other sounds are enlarged correspondingly.

Volume of sound is thus much greater in the movie theatre than in the "live" theatre or concert hall, and the mischief that can be wrought by excessive reverberation (reflection) correspondingly worse. Stepping up the volume further will not overcome a bad acoustical condition of this kind but only aggravate it, for as anybody knows, the louder the original sound, the louder and more prolonged is its echo.

Reverberation can be defined as a series of multiple echoes so closely spaced as to merge into a continuous sound. Its effect is to keep a sound alive and audible after the original sound source is cut off. The acoustical properties of an auditorium are customarily expressed in terms of its reverberation time—the number of seconds required for the reverberant sound to drop 60 decibels, or to one-millionth of its original intensity. (A level of 60 decibels is roughly equivalent to that of ordinary conversation). The larger the room and the less absorption it contains, the longer its reverberation time will be. And the louder the original sound, the longer its reverberations will remain audible.

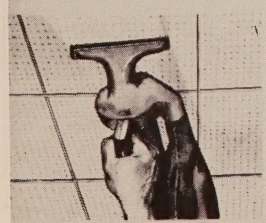
Nature of Sound

Let's look a little more closely at the nature of sound and how it behaves. It is generated as waves of energy, traveling in concentric circles in all directions at a speed of about 1,120 feet per second (the precise speed is determined by altitude and other variables, but they needn't concern us here). Out of doors, if it encounters no obstructions to hurl it back as an echo, it continues thus until the energy is dissipated. But in an enclosed space, where it encounters obstacles on all sides, there's a different story.

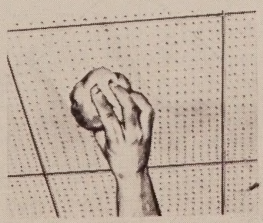
Hard, smooth interior surfaces like plaster, wood, glass and masonry, reflect sound as a mirror reflects light; up to 98.5 per cent of the sound that strikes them is thrown back into the room. These reflections, or echoes, ricochet from surface to surface—walls, floors, ceilings, etc.—in an invisible but all too audible hail until they finally die out. In a large auditorium with extensive reflective surfaces, this can take several seconds.

The effect of too much of this on listening conditions is obvious. If reverberation prolongs a spoken syllable too long after it is uttered, it will overlap and obscure the next syllable spoken —which in turn will be prolonged to mask the next one, and so on. Some reverberation is desirable; a room with none at all seems "dead." It's like the contrast between two rooms, one with all white walls, hangings and furnishings, the other all black. But with too much reverberation, speech becomes unintelligible, music sounds clangorous and even discordant, and the resultant sonic hash seems to come from every-

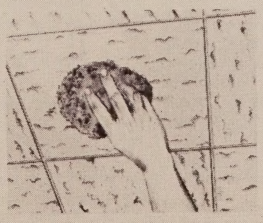
METHODS OF CLEANING ACOUSTICAL MATERIALS



Vacuum cleaning.

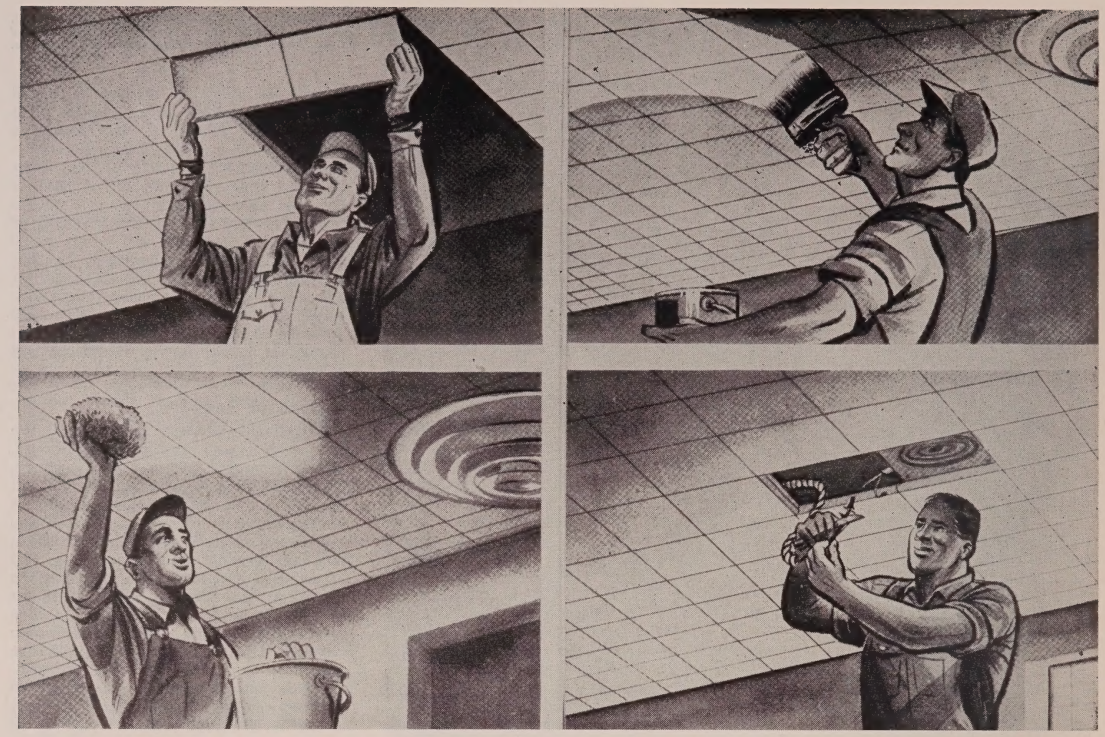


Wallpaper cleaner.



Dampened sponge.

Suds cleaning.



IN ADDITION to its ability to absorb sounds, most acoustical materials are easy to handle and maintain. As pictured above, it can be seen that acoustical panels are simple to install, may be painted, and are easy to clean. A panel may also be easily removed to make repairs on the ceiling.

where at once instead of from a localized source. As between the two extremes, it is preferable—especially when amplifying equipment is being used—to have too little reverberation than too much.

Good Acoustical Design

It's never too late for the exhibitor to tackle the acoustical problem. Ideally, of course, this begins with the architect's plans. Good acoustical design consists largely in avoiding sources of acoustical defects, and there are some generalizations that apply to auditoriums of all kinds. For example:

1. Rear walls with a uniform curvature centering at a point on the stage should be shunned like a plague; they are apt to produce an annoying echo in the forward portion of the room. Curved lines of seats also can contribute to such a concentration of reflected sound if the center of curvature is right —or rather, wrong.

2. The contours of side walls and ceiling in the front of the room should reflect sound at nearly glancing angles to the sides and rear of the room. This calls for walls splayed from the proscenium arch and a ceiling sloping upward from the arch.

3. Extended wall or ceiling surfaces should not have centers or axes of curvature that fall either on the stage or near any of the audience. Otherwise they can focus reflected sound like the reflector of a spotlight.

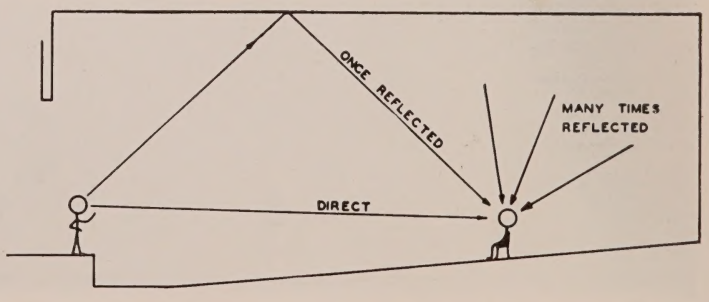
4. Average ceiling heights should be determined from the number of seats, so that the volume of the room in cubic feet does not exceed 200 times the number of seats.

The foregoing fundamentals of design are not sufficient in themselves, however. Whether the theatre is a new place, one now in use, or an old store building that is being remodeled to become a movie house, it will be necessary to introduce a considerable amount of sound absorption to assure good acoustics. It can be said here that theatre acoustical problems arise not only from oversight or a lack of understanding or even recognition of the problem, but also from attempts to short-cut a reliable acoustical correction job.

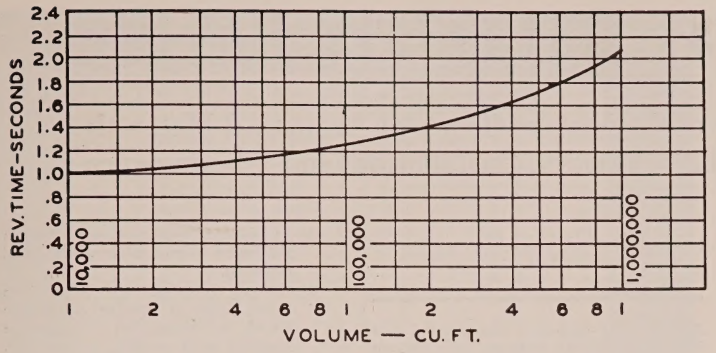
Upholstered seats, carpeted floors and the customers themselves all furnish appreciable amounts of sound absorption, but not enough. Thus even felt-lined carpet reflects from 63 per cent to 89 per cent of the sound that strikes it, depending upon frequency or pitch. So it becomes necessary to make up the deficiency with a suitable acoustical material or materials, strategically applied.

ACOUSTICAL MATERIALS

The selection of the proper material and its placement demand the services of an acoustical expert. A recent bulletin of the Acoustical Materials Association, representing all the major manufacturers in this field, lists and describes no less than 79 such products, made from a



THIS DIAGRAM SHOWS the component parts of sound received by a listener in an auditorium.



THE DIAGRAM at the left indicates the optimum reverberation times at 512 cycles for motion picture theatres as was recommended by ERPI.

variety of materials ranging from cellulose fibers of wood or bagasse, to mineral, glass and cork. In form they run from perforated or slotted monolithic tiles and vein-like tiles of fissured mineral wool, to units with an acoustical wool pad faced with perforated metal, asbestos, hardboard or plastic sheet.

Depending upon type, thickness and method of installation, these materials will absorb an average of about 70 per cent of the sound that strikes them and some will absorb up to 99 per cent of that in the upper middle frequencies. Manifestly, each has its advantages for particular applications, and by the same token, none is best for all applications. A material with an absorption coefficient of 99 per cent would be excessive in some cases, just as one with a coefficient of 60 per cent might be insufficient in others. But whatever the type, these materials all function in the same manner.

Porosity Important

They owe their success to porosity. Sound waves enter the material through the surface perforations or natural fissures and literally wear themselves out through friction as they travel about in the fibrous maze of the interior trying to get out. Thus these materials put an effective damper on the rambunctious romp of reverberation.

In stores, offices and industrial plants and other locations—including theatre lobbies and lounges—where the object is the reduction of noise, it is customary to apply acoustical materials to the ceiling. For that matter, many theatre auditoriums have been treated by placing the absorptive materials on the ceiling and back wall. Generally, however, as an acoustical control measure, it has been found preferable to apply the absorption to the side walls instead of the ceiling. Side wall treatment will prevent "flutter" or cross reflections, and should be so distributed that no large reflecting surfaces are directly opposite each other. The treated area should extend from the back wall approximately two-thirds to three-fourths of the distance to the proscenium.

Absorptive treatment of the back wall is advisable in practically all cases, and is essential in theatres more than about 55 feet long. Otherwise, sound reflections from the back wall will reach the front of the theatre as distinct echoes. It is usually advantageous also to place an absorbent covering over the front wall, behind the screen and speaker baffles, to prevent "slap back" from the front wall. The material used behind the screen should be of a dark color to avoid light reflections, but this consideration is not likely to have any bearing on the choice of material. All the commercial acoustical materials can be painted—and cleaned whenever required—without loss of their effectiveness if care is taken.

With absorption thus applied to the walls, and carpeting, seats and customers also acting as sound-absorbents, the untreated and still-reflective ceiling supplies that small amount of reverberation that we find desirable. It reinforces the original sound by directing the "spill-over" from the speakers back into the audience without setting up a hail of echoes to scramble it into a blur of gibberish.

In the case of the multiple sound channels and speaker baffles used with wide-screen films, this lets each "speak up" in its turn with no masking reverberations to confuse the listener as to just where the principal is coming from at any given moment. As the band marches across the screen, each loudspeaker in turn picks up the sound of the music as it approaches, and passes it on to the next speaker as the band goes by. Even with his eyes shut, the listener can follow the band's progress from the movement of the sound.

It's like an airplane passing overhead. Standing in an open field where there is no confusing reverberation, you can tell by the sound whether it's coming from the east or west, north or south, and which way it's traveling. But if you're in a city street, with tall buildings on either side, the sound will become louder and then fainter as the plane passes, but the reverberations most likely will block any feeling of direction.

Prevent Extraneous Noises

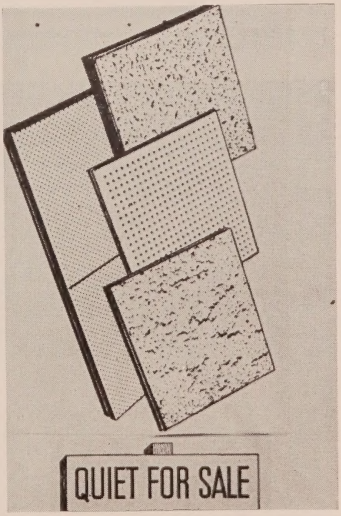
To prevent extraneous noises from disturbing the audience, now that the auditorium's acoustics have been perfected, several measures can be utilized. Traffic noise from outside can be fairly well eliminated by an acoustically treated lobby between the auditorium proper and the street. Similarly, a judicious application of absorbent materials in the foyer will muffle the inevitable crowd noises of arriving and departing patrons.

Projection booths also should be acoustically treated, and in addition should have walls with good sound insulating properties. Ventilating and air conditioning machinery — especially the heavier machinery—should not be mounted on structural members that are tied in directly with the floor, walls or ceiling of the auditorium. Sometimes, of course, this may be unavoidable, but in any case such machinery should be set on properly designed resilient mountings to prevent a sounding board effect. Ventilating air should be admitted and vented at low velocity through grilles designed for the greatest quiet, and air ducts should be lined for at least 16 feet from the vent openings with highly sound-absorptive material.

CONCLUSION

The individual requirements of each theatre will determine what measures are necessary to produce satisfactory listening conditions. Perfect acoustics, of course, will not create a high-fidelity presentation out of sound generated by faulty equipment, any more than the best high-fidelity equipment will overcome a bad acoustical condition.

It comes down to this: Unless the customers can hear what comes out of the loudspeakers with some semblance of its original quality and clarity, the presentation will be unsatisfactory. What comes out of the speakers depends upon the quality of the equipment; what happens to the sound after it leaves the speakers depends entirely upon the acoustical conditions of the theatre.



BY MAKING proper use of acoustical materials it is possible for theatre operators to make their houses a pleasant place to offer entertainment.

Acoustical Materials Review

A Thorough Survey of the Various Types of Acoustical Materials Available, Their Characteristics, Installation and Maintenance

Prepared By
The Acoustical Materials Assoc.

BRIEF: ***The control of sound is of vital importance to the operator of a theatre . . . Although the exhibitor is not expected to be a sound engineer . . . it could mean a considerable saving of time and money if he is familiar with the different types of acoustical materials that are on the market . . . and what each is capable of accomplishing.***

This article . . . prepared by the Acoustical Materials Association . . . is a complete review of acoustical materials . . . In addition to a description of each individual type . . . there is valuable information on such things as how these materials do their job . . . the factors to be considered when undertaking a sound conditioning program . . . the physical make-up of the various materials . . . maintenance procedures . . . and detailed data on how to install acoustical materials.

Sound is transmitted through a wall by having the surface set into diaphragmatic vibration by the incident sound waves or by a mechanical impact. The vibrating surface generates new sound waves of reduced intensity which are radiated by the opposite side. Transmission loss is the number of decibels which a sound loses in being transmitted through a wall or floor. It is a physical property of the construction.

The intensity of the original sound and the level of extraneous noise on the receiving side determines whether a sound can be heard through a wall. A minimum transmission loss of a wall of approximately 35 db is considered good while at least 45 db is considered excellent. Increasing weight and use of double construction are two basic methods of obtaining high sound insulation.

Noise transmission is controlled primarily by increasing the weight of the partition, ceiling or wall. Additional loss in noise transmission can be designed into the walls by dual partitions which are either entirely separated from each other or loosely attached to each other with a resilient connection such as springs, felt or cork.

Since the isolation of sound depends primarily on mass (weight) of the partition or floor, and because sound absorption materials are usually of light weight construction, they do not affect the noise transmission significantly. For the same reason, thermal insulating materials are relatively ineffective in stopping noise transmission unless combined with mass and resilient mountings.

Sound Insulation Construction and Acoustical Treatment

Three important precautions to be observed in sound insulating construction are:

1. **Fill up all cracks or openings in the construction.**
2. **In double construction, maintain maximum structural separation and isolation.**
3. **Always provide an impervious layer, such as plaster or plaster board, in conjunction with porous material such as light weight concrete blocks. Acoustical treatment cannot take the place of good sound insulating construction although it is recommended in conjunction with it.**

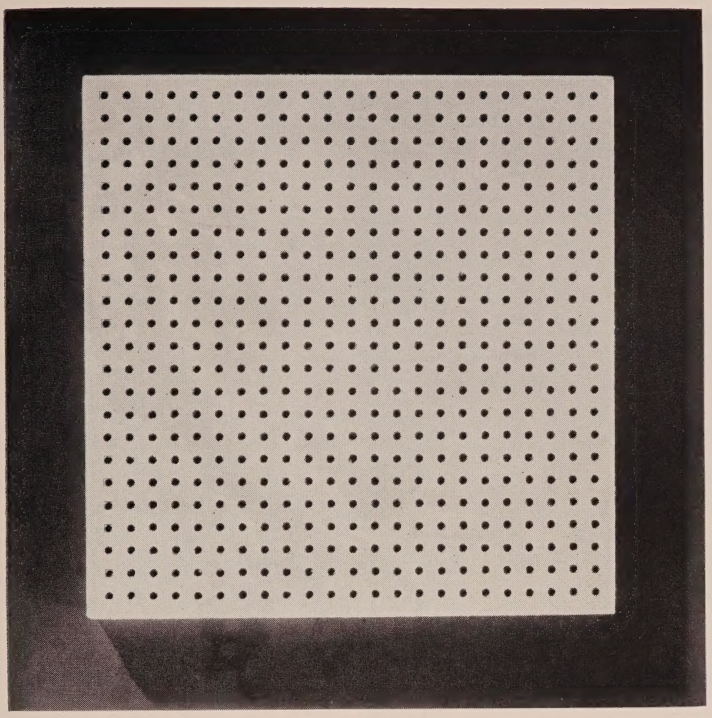
Obviously the overall sound insulating efficiency of a partition is limited by the characteristics of the doors or windows within the partition. This efficiency can be increased by providing felt or rubber gaskets on the door stops at the head and jambs, and installing a special metal bound felt strip threshold closer. A heavy flush door is more efficient than a light panel door.

Testing Methods

Acoustical materials are usually tested under three general categories: for sound absorption, for flame resistance, and light reflection.

In order to arrive at a comparable test criterion all members of the Acoustical Materials Association (AMA) have their material tested at one central laboratory under identical conditions. To determine the sound absorption of a particular material over 50 tests are made at different frequencies in a specially designed room.

THE OPERATOR of a motion picture theatre must always keep in mind the fact that he is dealing with sounds as well as sights. It is very important that the proper attention be given to the correct control of sound, not only in the auditorium, but in the entire building. Acoustical materials are vital.



LOW in cost, high in acoustical efficiency, cellulose acoustical ceiling tile is made in several sizes and thicknesses for versatility.

their efficiency to the fact that they are highly porous. The amount of absorption of a porous material depends on the thickness, the size of the pores, the ratio of pore volume to total volume, the frequency of the sound. Air particles, moving in and out of the pores, cause friction and sound energy is dissipated as heat. It is difficult to evaluate all of these factors with a view to predicting the absorption ability of a material.

In order that the pores of a material may absorb sound effectively, they must communicate with each other and with the surface of the material. The absorption increases up to a certain point with the degree of porosity as measured by the rate at which air can be forced through. For a given type of material, the lower the density, the more porosity. If the size of the pores is increased beyond a certain point, producing an extremely loose-textured material, the absorption decreases.

The absorption of practically all acoustical material is greater for high frequencies than for low frequencies.

How Acoustical Materials Are Compared

To compare one acoustical material with another, we need a basis or numerical figure or unit from which to work. When a new material or an improved material is put upon the market this material is tested like all the others and specific numeral ratings are given these materials. These ratings are listed in AMA bulletin entitled "Sound Absorption Coefficients of Architectural Acoustical Materials."

Fire Resistance Tests

Most of the acoustical materials in use today have been tested for flame resistance by the Association's official laboratory. The indiscriminate use of terms such as "fireproof," "fire resistant," "flameproof," etc., in specifications has created confusion.

By adopting the following letter designation for various degrees of flame resistance, as determined by a recognized test method, the AMA hopes to aid the architect in specifying the type of material required:

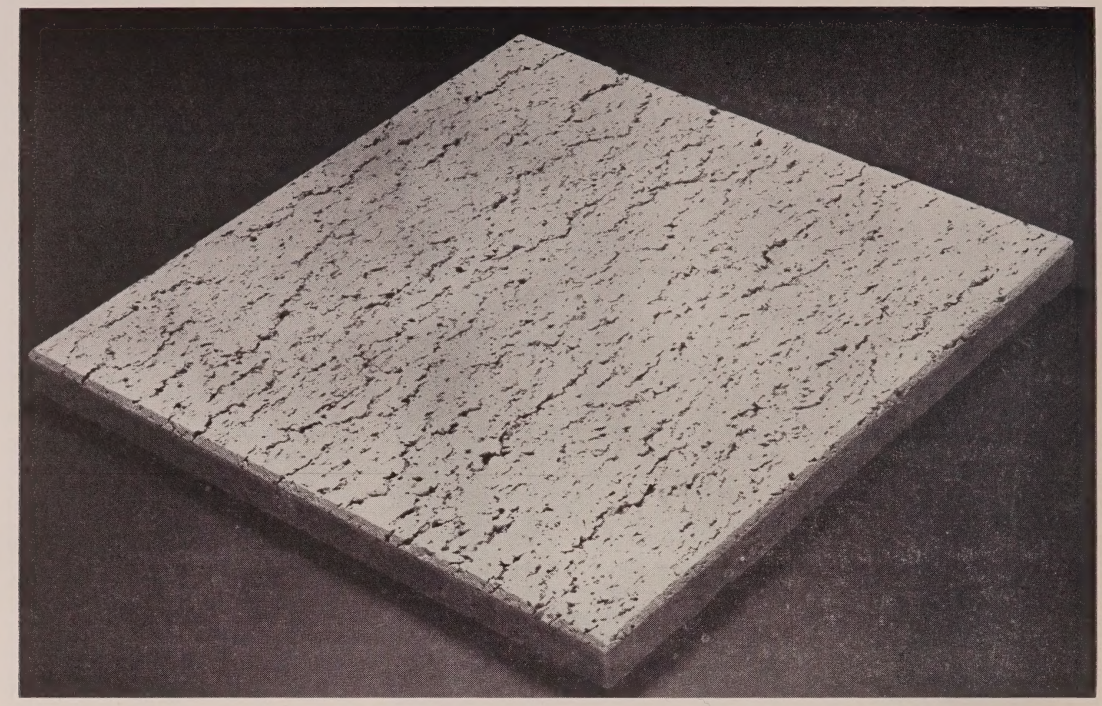
A. Incombustible
B. Fire Retardant
C. Slow Burning
D. Combustible

Because building codes and insurance ratings vary in different communities, it is not possible to specify a particular material for a specific job. Each architect will have to choose according to his particular code and to the ratings of individual material.

How Acoustical Materials Function

Most sound-absorbing materials owe

CELLULOSE fiber is easy to install. Here it is being cut to fit into last row of a ceiling. This tile can be cemented to the ceiling.



ANOTHER type of material is this fissured mineral wool acoustical tile that combines beauty with fire safety. It is made with square or beveled edges, has good light reflection, and can be installed by cementing or by mechanical suspension methods. Mineral wool tiles are made from inorganic rock.

In acoustical materials this is the absorption coefficient of a material. This coefficient indicates the percentage of the energy of a sound wave absorbed by the material when the sound waves strike it.

Because the absorption coefficient of every material varies with different frequencies, it is necessary to test materials at more than one frequency. In order to cover the complete range of high and low frequency sounds, materials are tested in six different frequencies. These are 125, 250, 500, 1000, 2000, and 4000 cycles per second.

The frequency of 500 is considered the middle frequency and is used in considering materials for auditorium correction. The numerical average of the four figures 250—2000 is called the Noise Reduction Coefficient, commonly referred to as N.R.C.

There is a common tendency to base the selection of an acoustical material almost entirely upon its N.R.C. This is not always justified. Actually small differences in acoustical efficiencies cannot be detected by the human ear.

Furthermore tests which determine these efficiencies cannot be carried out to pinpoint accuracy. Therefore, unless there is a special noise problem requiring very high absorption, other features of the available materials should also be considered.

If an architect only specifies one coefficient, he is automatically limiting himself to fewer materials. It is more practical to state a range of noise reduction coefficients such as .65—.75 rather than just a .70. In this way the architect may take advantage of other features without any noticeable difference in efficiency.

Acoustical Analysis Outline

In making an acoustical analysis and recommendation for an auditorium the following is a step outline:

1. **Determine the volume of the auditorium (V).**
2. **Determine the total absorption in the empty auditorium (a) due to the room surfaces, seats and furnishings.**
3. **Calculate the reverberation time in the empty room.**
4. **Add the absorption furnished by one-third, two thirds, and full audience, and calculate the respective reverberation times.**
5. **Select the acceptable reverberation time for the room.**
6. **Determine the number of units which must be added in order to give the acceptable reverberation time when an audience of the most probable size is present.**
7. **Determine the number of square feet of acoustical treatment which will give the required number of additional units.**
8. **Calculate the reverberation times after treatment for the empty room, one-third, two-thirds and full audience.**

GENERAL CLASSIFICATIONS OF ACOUSTICAL MATERIALS

Practically all products listed and used as acoustical materials can be classified in two general groups.

1. Prefabricated units with or without surface perforations.
2. Job assembled units with or without surface perforations.

Prefabricated Tiles

Prefabricated tiles are by far the most widely used. For general application, this type has a number of advantages. Through adequate control of density, thickness, dimensions, and finishes during the manufacturing process, tiles with uniform absorptive characteristics and matching appearance can be produced in large quantities.

Due to this precision in manufacture, their performance after installation can be relied upon to match that indicated by the standard test data on which they are rated. These materials come in both perforated and fissured tiles with varying shades and colors of finish.

Assembled Units

Assembled units include various combinations of sound-absorbing elements, such as rock-wool and glass-wool blankets, pads, or other materials with acoustically transparent facings, most of which are perforated. By varying the thickness and type of the sound-absorbing element and the spacings between the element, the wall and the facing, some variation in the over-all absorp-

tion and the absorption at the different frequencies can be obtained.

In practically all instances today, the facings used are some form of durable, perforated panel such as metal, asbestos board, or hard board. The original use of cloth, usually muslin, has been discontinued because of difficulties and expense in maintenance.

What Are Acoustical Materials?

An architectural acoustical material is one which is used for surfacing ceilings and walls. Its principal function is the absorption of sound.

Acoustical materials are made from a great variety of substances and combinations of ingredients. Very efficient sound-absorbers have been made from vegetable fibers.

Bagasse is the fiber residue of sugar cane after the juice has been extracted. Wood fibers are produced from various types of trees in the south and the northwest. Hair felt is still used, but not to the extent of former years.

Mineral fibers, such as asbestos, glass, and mineral wool, enter into many compositions, as do the vermiculite, pumice, and perlite aggregates. The binding agent can often contribute considerably to the sound absorption of a product; the porosity of materials is often increased by adding a foaming agent to the mix.

Cellulose-Fiber Tiles

Fiber tiles are made from both sugar cane fibers called bagasse, and wood fibers. After fabrication, there are myriad minute interstices between the fibers throughout the entire tile. These tiny voids exposed by perforations give the tile its sound absorbing qualities. Tile can be made termite-, fungi-, and dry-rot proof by special manufacturing processes.

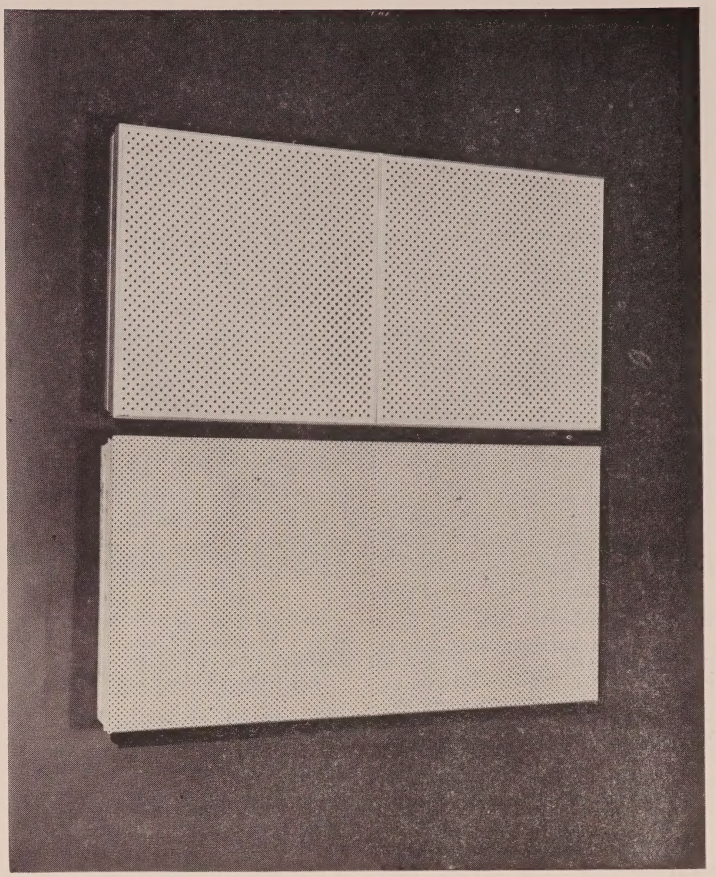
The low cost of fiber tile and installation of these materials creates a demand for their use. These materials can be found in almost every type of installation such as commercial buildings, institutional buildings, etc.

A large variety of sizes, thicknesses, and efficiencies are available in the cellulose fiber type of acoustical tile. They are also available with a flame resistant finish. These tiles are low-price work horses of the industry. Like wood they are subject to some dimensional changes due to moisture content. Variations in appearance are achieved by varying the size and spacing of perforations and by varying the size, shape and color of tile.

Mineral Tile

Mineral wool is the general component of mineral tiles and is felted with the addition of a suitable binder. The binder is added to provide strength and toughness in the finished product. Mineral fiber tile is available with fissured surfaces or with perforated surfaces. Sound is dissipated by friction in the minute interstices between the fibers, exposed by the fissures or perforations.

Fissured material is frequently used when appearance is a primary consideration. This factor is quite important when a more artistic, decorative effect is desired. Perforated materials are used in commercial and institutional buildings and other areas requiring continued maintenance.



PERFORATED metal tile, as illustrated here, uses an acoustical blanket behind a metal pan. It is usually made of steel or aluminum with perforations to permit sound to reach the mineral-wool pad.

Because of their mineral composition, these tiles are classified Class A Incombustible. They are used in all types of areas where building codes require an incombustible material, especially where the public gathers such as motion picture theatres, or in places of entrance-egress.

Perforated-Metal Tile

The metal-type acoustical material consists of perforated metal with supporting flanges which provide structural strength and a mineral-wool pad which absorbs sound. This tile is usually made of 26-gage steel or aluminum, with perforations to permit sound to reach the pad. It usually has a baked-on white enamel finish which is easy to wash and maintain.

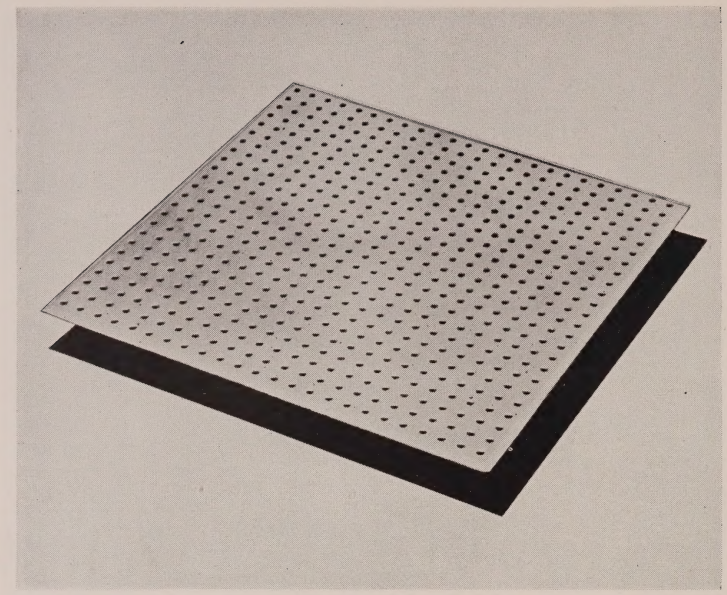
Where high humidity or condensation may exist the metal used for this tile should be either electro-galvanized steel or aluminum. The perforated, metal-type has the highest acoustical efficiency of commercial acoustical tile. It is used in installations where it can be taken down and moved to other areas. It is used quite frequently in commercial and institutional buildings particularly where long range economy of maintenance is important, as would be the case in a theatre.

This material is particularly adaptable to air-conditioning systems since special air-flow channels can be installed which allow cooled air to pass through the perforations into the room below.

Glass-Fiber Tile

In the manufacturing process of glass-fiber tile, molten glass is drawn into fine fibers under controlled techniques. When combined with a small percentage of a stable binding agent, the glass fibers are compressed and bonded into board form. The boards are then cut into tiles of desired sizes and thickness and finished to required specifications.

Because this tile has an incombustible rating, it will be found in all types of installations that require flame resistance. Schools, public places, and offices are major users. Its good moisture resistance also permits use in places where humidity and dampness are prevalent. Some tiles have a thin plastic membrane covering which makes them washable.



SEEN here is a perforated asbestos-cement facing for acoustical panels. This is backed up by a sound-absorbing material, and can stand abuse.

Perforated-Asbestos Tile

Perforated asbestos-board-type tile is made of asbestos and cement and is backed with an inorganic wool acoustical backing. It is manufactured in several thicknesses and the panels are perforated with small holes to allow the sound to be absorbed by the acoustical backing.

Because it does not retain moisture, it is especially useful in installations like swimming pool areas or restaurant kitchens. Its high acoustical efficiency has made it widely popular for scientific acoustical treatment in radio and television studios, concert halls, auditoriums, music rooms, and on wall surfaces. Although all acoustical materials can be damaged by severe blows, this type is usually preferred where abuse will occur.

POINTS TO CONSIDER

No *one* material will solve every architectural problem. For this reason there are available today many acoustical materials, each with its own important characteristics. Except where special noise problems exist, or where efficiency is a critical factor these characteristics should be considered:

Appearance, Light Reflection, Thickness, Moisture, Maintenance, Insulation Value, Installation Methods, Flame Resistance, Cost.

Because so many variables are involved it is unfair and incorrect to say that any one type of tile is best suited for a particular type of job. Determine what is the main problem or goal, and then choose the tile that gives the best all around performance.

Appearance

When a distinctive architectural effect is a requisite, acoustical material of many varieties of designs and finishes are available. Reception rooms, lobbies, executive offices, etc., depend more upon appearance and thus are prime users of fissured material.

There are many types of material that are used in special cases for decoration. These include the motifed materials that have an embossed design on the tile, as well as random hole design, mottled finish, striated design, decorative plastic faces, etc.

Where it is desired to secure a simple plain ceiling surface, square edge tile is available. Some tiles have beveled edges, some borders. Unique results have been created by painting a design on tiles, giving a mosaic effect.

Light Reflection

Nearly every type of lighting fixture depends upon other light reflecting surfaces within the room. These surfaces not only help to balance illumination by softening shadows but they reinforce direct light.

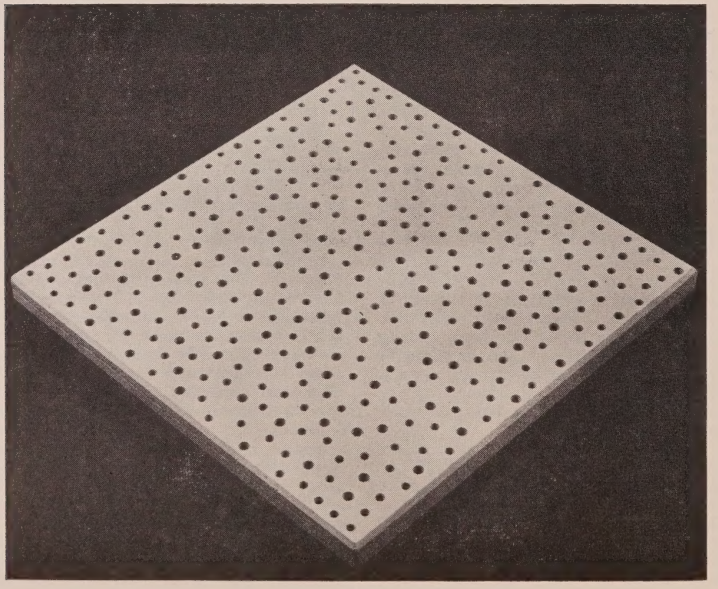
That is why acoustical materials factory finished in white play such an important part in room lighting. Most materials are capable of reflecting more than 75 per cent of the light, and their surfaces do not produce glare. Cove lighting shows up even the smallest variation in the surface of the tiles, resulting in an appearance of uneven shadows. Recessed or suspended fixtures are therefore more suitable.

In cases where grazing light cannot be avoided factory kerfed acoustical tiles installed with fiber splines at the corners and cemented in place are recommended.

Thickness-Moisture Resistance

The thickness of most prefabricated acoustical tiles ranges from one-half inch to one inch. The thickness of job-assembled units will depend upon the thickness of the backing pad. Generally, the absorption of acoustical materials increases with the thickness, particularly at low frequencies.

Moisture Resistance — Cellulose fiber and mineral tiles have a moderate moisture resistance and can be used except where excess humidity prevails for long periods. While cork tiles have excellent moisture resistance their acoustical efficiency is low. Glass fiber and perforated asbestos tiles are best suited where continued high humidity and varying condi-



FULL random tile has an unusually decorative non-directional design with perforations that are spaced at random over the space of the tile.

tions exist. If tiles have not been treated for mold or mildew, care should be taken not to install where moisture conditions are excessive.

Maintenance

Acoustical materials that are easiest to maintain properly should always be considered. Materials that contain perforations are usually the easiest to maintain over a period of years. All types of perforated tiles (including perforated metal with baked-enamel finish) may be repainted repeatedly without affecting their acoustical efficiency if proper paint and technique are used.

Where severe maintenance problems are anticipated such as exposure to wear, materials that are harder surfaced with baked enamel, steel or asbestos board should be considered. Air conditioning systems with inadequate filters, locations where considerable smoking takes place, etc., tend to increase maintenance problems. These situations should be discussed with the manufacturers of the respective products. For best results, study their catalogs as to washability, paintability, and cleaning methods.

Insulation Value

Acoustical materials, because of their low density, open structure and fibrous make-up, assist substantially in providing thermal insulation to the ceiling and roof decks of building structures. Under some conditions of moderate temperature and humidity, certain of these materials in themselves may suffice as the thermal insulating medium, depending on the requirements to be met. However, in view of the wide variation of acoustical materials as a class with respect to thermal conductivity, thickness of the units, and method of application, they are more generally used in combination with thermal insulating materials primarily designed for that purpose. Their effect upon heat loss should be computed in combination with the entire assembly.

In relatively cold climates, where the problem is one of preventing condensation on cold roof surfaces it is common practice to protect the thermal insulation from moisture vapor penetration by incorporating a vapor barrier on the warm side.

Where these conditions exist it is considered the best practice to locate the vapor sealed insulation on top of the roof slab with the acoustical material installed in the conventional manner in the room below. If this cannot be done, the vapor seal should be located between the thermal insulation and acoustical material. This method of erection puts the barrier in the proper place, and the acoustical material contributes appreciably to the overall thermal resistance of the structure.

HOW TO INSTALL ACOUSTICAL MATERIALS

Just as there is often a best type of acoustical material for a particular job, there is usually a preferred method for applying that material. Therefore, the system of installing an acoustical ceiling should be chosen with care, as a wise choice of method will mean not only a saving in time and money but will also result in a more serviceable installation.

Since each structure has its special structural problems, it will sometimes be necessary to employ different methods of attaching the acoustical tile or a combination of several methods. These methods are suggested as possibilities rather than as standard operating procedures, and are covered in the general order of their cost, from lowest to highest.

Cementing

In remodeling work it is very often possible to cement acoustical tile directly to the plaster ceiling. This is the most common of all methods and usually the least expensive. The plaster, however, must be in good conditions since cementing requires a smooth, solid-base surface to which the tile can be applied. Unpainted plaster ceilings should be sized to bind surface to the base plaster.

Where the ceiling has been painted, tests should be made to determine if the adhesive will bond satisfactorily. The recommended test is to install a single tile, leave it in place for 48 hours, then remove it. If the paint has not softened, it is considered safe to use the cement method.

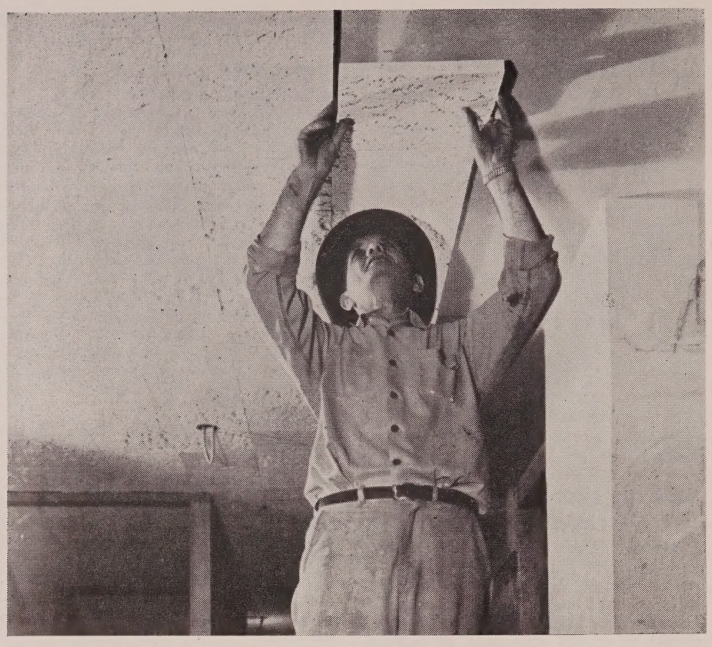
Cementing to Gypsum Lath — If the acoustical material is one that cannot be nailed, such as certain types of mineral wool tile, it may be best to install gypsum lath and cement the acoustical tile to it. This type of installation not only provides more rigid construction but has the added advantage of providing additional fire resistance. Cementing to gypsum lath to provide a fire stop is especially important when using C and D materials.

Cementing to Brown Coat Plaster — The use of plaster is one of several dependable fire stops and also reduces sound transmission through the ceiling. The sand surface of the brown coat must be sized to bind the surface solidly to the body of the plaster.

Cementing to Suspended Finished Coat Plaster Ceiling — This method provides a nonbreathing ceiling, fire resistance and resistance to sound transmission.

Cementing to a Concrete Slab or Pre-Cast Concrete Block — Be sure slab or

A VERSATILE material, here is mineral fissured tile being installed with a suspension system.



IN ORDER to obtain the best performance and most attractive appearance from acoustical materials, it is important that they be installed properly. Here we see fissured tile being correctly cemented to ceiling.

concrete is dust free, oil free and adequately dry. To be satisfactory the base must be absolutely straight, true and in place.

Nail to Wood Furring

Wood furring strips, one by three inches may be used as a base for nailing or screwing the acoustical material where the ceiling surface is rough and uneven. The strips, however, should be shimmed so that they are level. In new construction, it is often possible to fur across the joists.

Nailing methods have the advantage of slightly higher absorption efficiency because of air space. Building paper as a backing between the tile and the furring is often used to avoid "breathing" through the joints of abutting tile unless a tongue and groove edge is provided on the tile.

Nails should be driven beyond surface of tile using a nail set. This method has limited use because of building code regulations.

Screwing to Gypsum Board

One of the acceptable methods of applying a perforated fiber tile material is accomplished by screwing the material to a base of gypsum board. The use of screws is a very secure method of attaching an acoustical material especially when the ceiling is subject to shock or impact.

With the use of the screw method of application, the acoustical fiber tile will be installed tightly against the gypsum board. Therefore the finished level of the ceiling is governed entirely by the care and accuracy with which the gypsum board is installed.

Mechanical Suspension

Mechanical suspension systems are adaptable to both old and new construction. They conceal overhead pipes, air-conditioning ducts, and electrical conduits.

Mechanically suspended ceilings are often used where old ceilings are too high. They are suited to receive recessed troffer-type lighting fixtures and the extra space made available above the ceiling simplifies the installation or repair of these concealed fixtures.

Overall lighting in the room is often improved by a lower ceiling with good light-reflecting properties. Suspended ceilings usually are more efficient because the absorbent surface is brought closer to the source of sound. They sometimes make heating systems more efficient by reducing the volume of the room. This special system allows the units to be taken down individually and moved for remodeling, or for quick access to pipes, ducts, and wiring. Access doors can be eliminated in this type of construction.

In conditions where air pressure differential can occur the problem of cutting off "breathing" should be considered.

There are several good ways of suspending acoustical materials mechanically. One of the most economical is the H-runner system which is rapidly erected because the materials are attached directly to the supporting members. Acoustical materials must be kerfed and backcut to fit in the runner.

Pre-Installation Conditions

With acoustical materials, as with other fine interior finish materials, best performance and appearance can be expected only when installation is made by correct techniques and under the proper job conditions.

No installation should be made when the building is excessively cold, damp, hot or dry. Temperature and humidity conditions closely approximating the interior condition which will exist when the building is occupied should be maintained before, during and after installation. All plastering, concrete and terrazzo work (including grinding) should be complete and dry.

All windows and doors should be in place and glazed. Poured or pre-cast concrete and gypsum or similar roof decks should be thoroughly dry. Form oil should be removed before application. These and other precautions should be discussed with the acoustical contractor.

DESIGN OF AUDITORIUMS

An auditorium can be designed to provide more uniform distribution of loudness by providing high, shallow under-balcony space, by avoiding excessively wide seating areas, by keeping the main ceiling height low, by providing sound reflective stage surfaces, and by sloping the wall and ceiling surfaces in front of the stage so as to reflect sound toward the rear of the room, avoiding convex curve.

Upholstered seating is effective in absorbing sound and reduces the variation in reverberation caused by the size of the audience. Wood paneled surfaces may be desirable where low frequency sound absorption is important.

Treatment should be placed on surfaces which would, if untreated cause delayed interfering reflections. Surfaces in front of stage which provide useful reinforcement should be left reflecting. Rear wall treatment is generally advisable to reduce echoes. This is especially important for curved rear walls which magnify echoes by focusing.

The following general rules should be observed in locating and distributing treatment. (1) Do not expect full efficiency from treatment placed in deeply recessed spaces such as under balcony ceilings. (2) Treat rear walls whenever possible. (3) Use large areas of medium efficiency material in preference to small areas of high efficiency material. (4) Do not place heavy absorption on surfaces which furnish useful reinforcing reflections.

Theatre treatment should use furred construction for good low frequency absorption where possible. Always treat rear walls. Omit treatment from low ceilings.

Since the ceiling constitutes the greatest reflective surface of most rooms it is conventional to place the acoustical materials there and thus cover the greatest amount of what otherwise would be reflective areas.

In small rooms containing mechanical equipment, such as the projection booth, it is frequently necessary to treat not only the ceiling but also the side wall areas. This condition exists because the ceiling may frequently constitute only a small portion of the entire room surface and also because the noise intensity is so high.

Fiberglas in Theatres

A Leading Manufacturer Discusses the Many and Varied Fibrous Glass Products Available for Use in Theatres

By BEN S. WRIGHT
Vice-President, Purchases and Trade Relations
Owen-Corning Fiberglas Corporation

BRIEF: ***With the trend towards remodeling and some increase in new theatre construction . . . exhibitors and others in the physical end of the motion picture theatre industry . . . should be interested in learning more about the various materials available that will improve the appearance of theatre interiors and exteriors . . . One of the most useful of these materials is fibrous glass . . . Prepared by one of the leading manufacturers of this material . . . this article outlines a number of ways in which Fiberglas may be put to work in the building . . . renovating . . . and decoration of indoor houses . . . The use of Fiberglas as a drive-in screen material is also covered . . . Although the technical details are not stressed in this article . . . it does suggest the versatility of Fiberglas . . . and should give the reader many new ideas on how to best make use of this product.***

Versatile products of fibrous glass are being used increasingly in theatres because they provide construction and renovation economies, comfort, and decor and they contribute to fire safety.

These uses range from screens of Fiberglas-reinforced plastic to draperies and curtains, filters for forced warm air furnaces and air conditioning units, lamp shades, acoustical tiles and boards, Fiberglas-plastic translucent panels and building products.

Many Fiberglas building and industrial products are used in construction and renovation of theatres. These include: roof, duct, pipe, building insulations and acoustical form board.

Aerocor, a superfine insulation, and PF (preformed) insulation, have been widely used to overcome sound deficiencies in older theatres enabling owners to adapt their houses to the requirements of new sound equipment at a minimum cost.

Drive-Ins

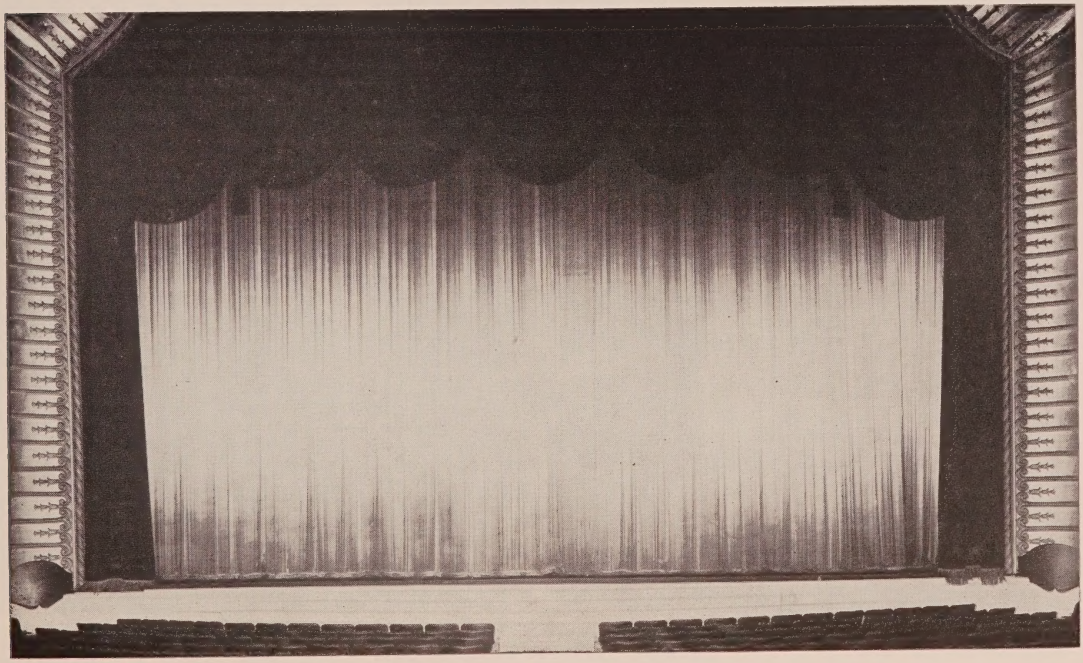
Fiberglas-reinforced plastic screens are being seen in more drive-in theatres because they are exceedingly tough, weather-resistant and are said to reflect 30 per cent more light than those made of conventional materials. Described as the most satisfactory screen for outdoor use, the new Fiberglas-plastic screen's non-erected cost is about one-half that of others used.

Natco Wonder Screen Company, Dallas, Texas, distributor of the product, manufactured by the National Tank Company of Tulsa, Oklahoma, says the new screens will not warp or buckle, are seamless and light in weight.

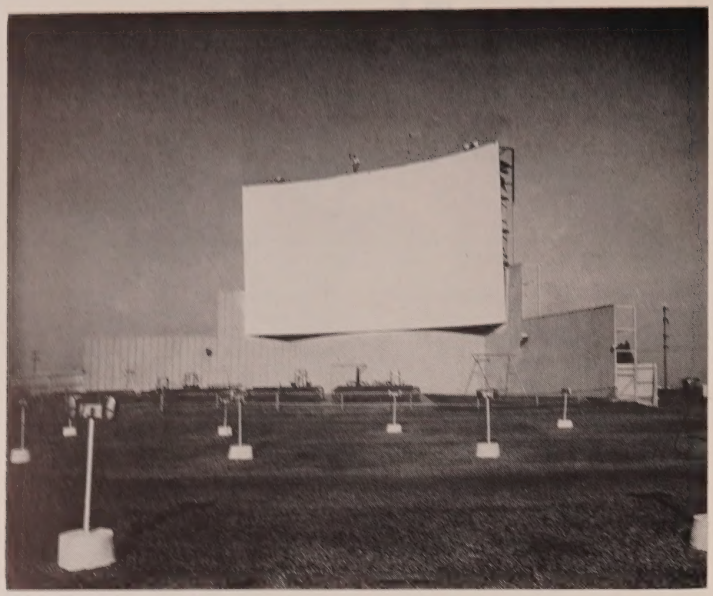
Draperies and curtains woven of Fiberglas yarns in many beautiful prints, weaves, and textures are found in theatre auditoriums, lobbies, rest rooms, lounges and foyers. Permanently incombustible, the fabrics require no subsequent retreatment to maintain their inability to burn.

The Fiberglas decorative fabrics are made of glass yarns which are made from glass filaments so fine that they are almost invisible. They have the appearance of conventional fabrics although they retain the qualities inherent in glass—except brittleness or stiffness.

The first commercial product of Owens-Corning Fiberglas Corporation, the disposable filter, has become standard in most forced warm air furnaces and air conditioning units. These filters screen from circulated air dirt, dust and other impurities and pollens which would otherwise cause audience discomfort and soil draperies and upholstery.



ONE OF many uses for Fiberglas is draperies, as can be seen below. They are installed at the Imperial Theatre, in Toronto, Ontario, Canada.



ONE OF the first installations of the Fiberglas plastic drive-in screen was made at Buckner Boulevard Drive-In, Dallas, Tex. These screens are weather-resistant and said to reflect 30 per cent more light.

Fiberglas-reinforced plastic lamp shades are popular for use in theatre lobbies, lounges and foyers because they set high standards for practicality and decorative distinction. They are long lasting, are easily cleaned and are smear-proof.

Sound Control

Sound control products of Owens-Corning combine high noise absorption and architectural beauty with light weight and dimensional stability. They are equally adaptable in new as well as renovated theatres. These products, which are made from fibers of glass bonded into board form, provide long-lasting, fire-safe acoustical treatments that will not buckle or warp and are easily maintained.

Tiles and board may be adhered to the ceiling or may be installed on mechanical suspension systems to lower existing ceilings.

They include Stria, a grooved surface tile affording many decorative possibilities in ceiling design; textured, perforated and sonofaced acoustical tile; textured and sonofaced ceiling board, and sonocor, superfine Fiberglas pads for installation in metal pans pads. Sonofaced products include a decorative plastic film which resists dirt and is easily cleaned.

Other Uses

Translucent plastic sheets, reinforced with Fiberglas materials, are made in several attractive colors for partitions, dressing room and office screens and for screening fences in drive-in theatres. The panels allow the light to enter yet provide complete privacy as they are translucent.

Owens-Corning has several products used in theatre construction which have high thermal and acoustical values. Use of these products makes possible smaller and less expensive heating and air conditioning units and closer temperature controls. In addition, they absorb noise and improve the quality of sound equipment.

Fiberglas roof insulation is light in weight with an exceptionally low heat conductance value. Duct insulation is a low cost insulation and sound absorbing material for heating or air conditioning systems. Pipe insulation retards loss of heat through pipes and low pressure pipe insulation is designed for use on cold water, hot water or low pressure steam lines.

Form Board

Fiberglas acoustical form board with an attractive mat face may be used in construction of neighborhood and modest theatres where economies are important. The form board performs four basic tasks. It is used as a permanent form for poured-in-place gypsum roof decks, as a ceiling because it has a pleasing, tan rippled appearance, and as acoustical and thermal insulation.

Used in Many Ways

Fibrous glass products are used in many other ways in theatres. For example, insulations are contained in drinking fountains and water coolers and Fiberglas materials serve as reinforcement in plastic housings and cabinets used in some air conditioning units.

Fiberglas PF (preformed) board and Aerocor (superfine) insulations have been used to advantage in old theatres with acoustical problems. The PF has been installed with regular acoustical adhesive problems. The PF has been installed with regular acoustical adhesive over old acoustical plaster, and over plaster walls after removal of the original tile. Aerocor has also been used as an acoustical material, cemented to walls behind screens and draperies where possible.

By use of these PF and Aerocor insulations, some theatre owners have been successful in bringing their buildings up-to-date acoustically. By overcoming the deficiencies of acoustical plaster which has hardened and lost its effectiveness, they have been able to adapt their theatres to requirements of new sound equipment at a minimum expense.

Continuous research and development has resulted in many Fiberglas products which have challenged and replaced older products in many fields, including the entertainment industry.

FIBERGLAS-reinforced plastic lamp shades which set high standards for practicality and decorative beauty, may be used in lobbies and foyers.

FIRE SAFE draperies and curtains made of Fiberglas yarns in many patterns can be used in the office, lounges and others parts of the theatre.

1954-55 Review of Theatre Construction

The Year's Outstanding Developments in the Building and Remodeling of Theatres are Surveyed Pictorially

The purpose of this section, as indicated by the title, has always been to showcase outstanding examples of indoor and outdoor theatre construction, both new and remodeled. Although this has been the main theme, throughout the years that THEATRE CATALOG has published this theatre review, a subtheme has also been quite evident; a barometer of theatre conditions. A brief look at previous years can help to illustrate this point.

In 1946 there were 28 theatres presented and only five of these, or 18 per cent of the total, were drive-ins. At that time the outdoor theatre was beginning to show signs of developing into an important branch of exhibition, but as yet had not really made itself felt in the overall picture. This fact was mirrored in the attention given to outdoor operations in this theatre review. By 1950 the drive-in had emerged as an exciting and flourishing method of film presentation. This was reflected here with some 20 outdoor theatres being given pictorial attention as against a combined figure of 37 new and remodeled indoor houses. This meant that in a short four-year span, the drive-in now received 35 per cent of the allotted space.

Today the drive-in has reached the saturation point in many areas, and this situation is making itself felt by the diminishing number of outdoor theatres reviewed. Another indication that these pages act as a sensitive, if not very scientific gauge of general conditions, is the gradual, but steady decline in the number of theatres selected in recent years. New theatre construction in this country has been at a standstill for quite some time, and therefore there are fewer conventional houses to select from. However, more and more existing houses are undergoing major remodeling programs in order to keep abreast of the times, and this can be seen by noting the greater proportionate number of remodeling projects that have been, and are presented.

Probably one of the outstanding, certainly one of the most significant developments noted in this year's group, is the large number of foreign houses selected. Of course, the theatres were chosen because they represent outstanding examples of modern architecture, and the locale did not enter into any decision. However, the fact that more and more of the most outstanding and exciting indoor theatres are being built outside of the United States does indicate that the theatre industry in many foreign nations is in the midst of a generally healthy economic picture, and is going through a construction boom that has come, and unfortunately gone, in this country.

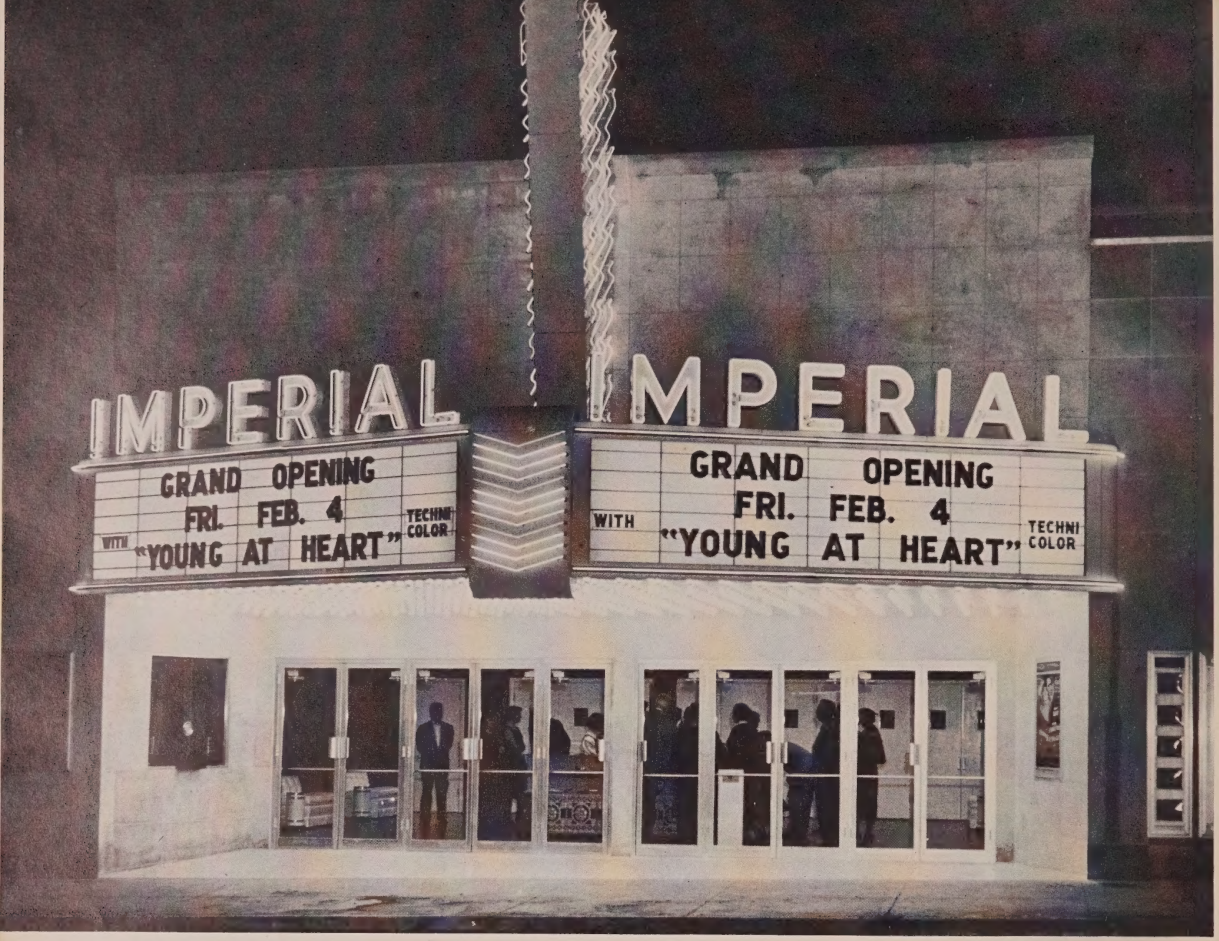
Although many different types and forms of indoor and outdoor theatre design and construction can be found, covering a wide range of sites, location, materials used, costs, etc., there does appear to be one common denominator—the use of the wide screen. It was indicated rather strongly last year that the wide screen would receive almost universal acceptance, and the accuracy of that impression seems to be evident in this year's group of theatres.

The use of simple lines highlighted by dramatic slashes of color, or striking examples of wall and ceiling decor, particularly in lobbies and lounges, is to be found in a number of theatres reviewed here. Attention to patron comfort continues to play a major role in the design of new or remodeled theatres. Naturally, projection and sound equipment capable of faithfully reproducing what has been placed on the film and sound tracks, has been installed in all the theatres. With the question of magnetic or optical stereophonic sound (to say nothing of stereophonic sound itself) still unsettled, most theatremen have found it wise to install equipment capable of reproducing both types of sound.

A situation worth watching is the trend toward the construction of larger drive-ins. It is becoming apparent that the number of drive-ins in certain sections has reached a point where the basic economic law of supply and demand will make itself felt in the form of stiff competition. To combat this, the new drive-ins being constructed are, for the most part, deluxe operations with a minimum capacity of 1,000 cars, capable of offering the finest facilities, and with the gross potential necessary to be able to bid for top film product.

The future of theatre construction is by no means clear. With the many segments of the industry going through a period of unrest and misunderstanding, plus the ever present competition of television, the incentive to construct new houses is, of course, weakened. Last year it was stated here that remodeling and drive-in construction would dominate, and this appears to be a safe prediction for the 1955-56 period, as far as the United States is concerned. However, construction of major indoor theatres in many foreign countries should continue to increase, and it might be interesting to watch foreign drive-in construction.

AN INTERESTING and significant development is the increasing number of deluxe theatres being constructed in foreign countries, such as the new Qs Theatre in Osaka, Japan (left). A continuing trend in the United States is toward more remodeling, such as that done at the Rialto, New York (right).



IMPERIAL •

Waco, Tex.

This 850 seat house is a fine example of theatre construction today. It is equipped to show all of the latest wide screen systems in a building that is comfortable, safe and inviting.

The front is constructed of Indiana limestone, and the marquee, attraction board, and pylon are made of white porcelain with green used for contrast.

The lobby is decorated to give the impression of a late nineteenth century royal ballroom. Located directly in the center of the lobby is the very attractive concession stand which has a base made of gold and black grillwork.

In order to maintain the mood of the decor, nothing is allowed to be placed on top of the concession stand counters, and no equipment is allowed to extend higher than the counters.

The auditorium was purposely kept as simple as possible so that no conflict would be created between the screen and the rest of the room.

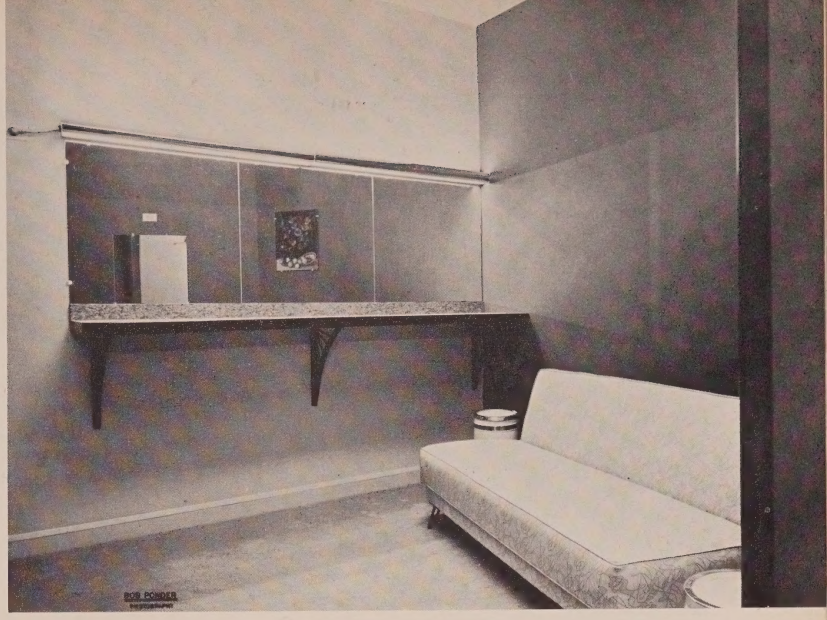
An unusual effect is created by the chairs which are upholstered in alternating chocolate brown and gold, making a checkerboard of gold and brown which is eye-catching.

The facilities in the lounges are in keeping with the rest of the theatre.

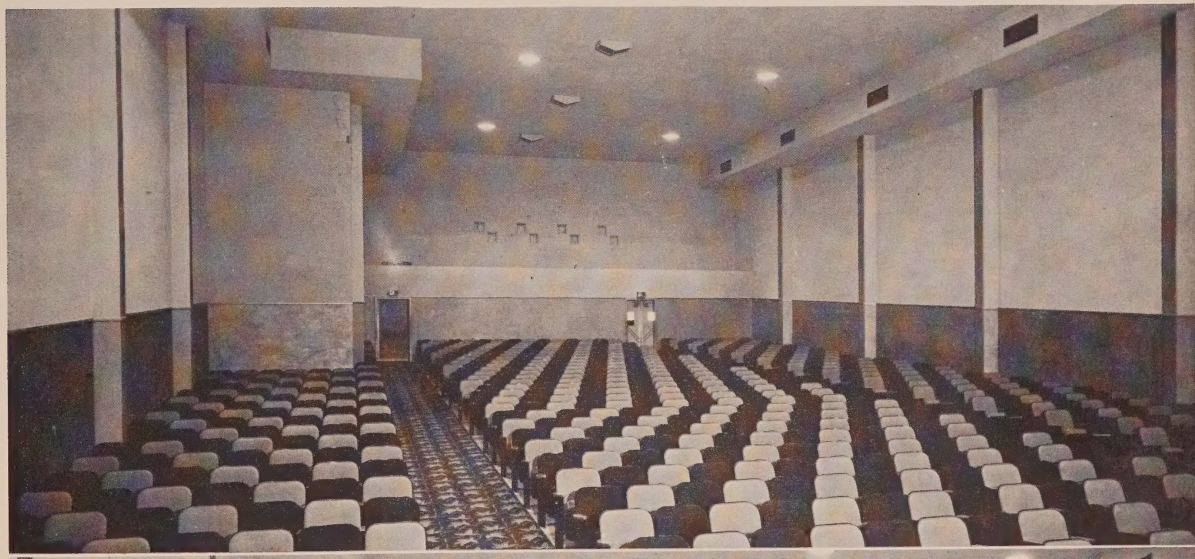
REFERENCE DATA

OWNER & OPERATOR: Newman Theatres.
ARCHITECT: Walter Cox.
SEATING CAPACITY: 850.
COST OF BUILDING: $300,000.

Air Conditioning: Alton Mfg. Co.
Carpets: Mohawk Carpet Mills.
Chairs: Griggs Equipment Co.
Decorator: Madison Cooper.
Generators: Westinghouse Electric Corp.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: Strong Electric Corp.
Projection Machines: Century Projector Corp.
Screen: Williams Screen Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: Ballantyne Co.
Supply Dealer: Hardin Theatre Supply Co.



THE auditorium decor, although attractive, has been kept simple so as not to distract the patron's attention from the screen. The female patrons are particularly impressed with the standing vanity and other lounge furnishings.



FOX •

Trona, Calif.

The most modern features of architecture, engineering and acoustical treatment have been incorporated in the construction of this new theatre.

Keeping in mind the importance of protecting the public, the building has been so constructed that it is earthquake-proof. All illumination is recessed in order to provide proper lighting, but not interfere with the lines of the decor.

The Fox is said to be the first perfect sound motion picture theatre with no dead spots, assuring constant volume of sound in any part of the auditorium.

All of the latest projection and sound equipment has been installed, plus a 19 by 40 foot wide screen.

The decorative scheme is one of dynamic design that flows unbroken around the side walls of the auditorium.

REFERENCE DATA

OWNER: National Theatres Amusement Co.

OPERATOR: Fox West Coast Theatres.

SEATING CAPACITY: 636.

Carpets: Alexander Smith & Sons.

Chairs: American Seating Co.

Decorator: John Tartaglio.

Generators: General Electric.

Projection Lamps: International Projector Corp., Simplex.

Projection Machines: International Projector Corp., Simplex.

Screen: Miracle Mirror.

Sound: Ampex Corp.

Supply Dealer: National Theatre Supply.

Ticket Issuing Machine: General Register Corp.

SONORA •

Mexico City, Mexico

One of the finest new theatres in Mexico is the 3600 seat Sonora. Until very recently its 80 foot wide screen was the largest ever installed in an indoor theatre.

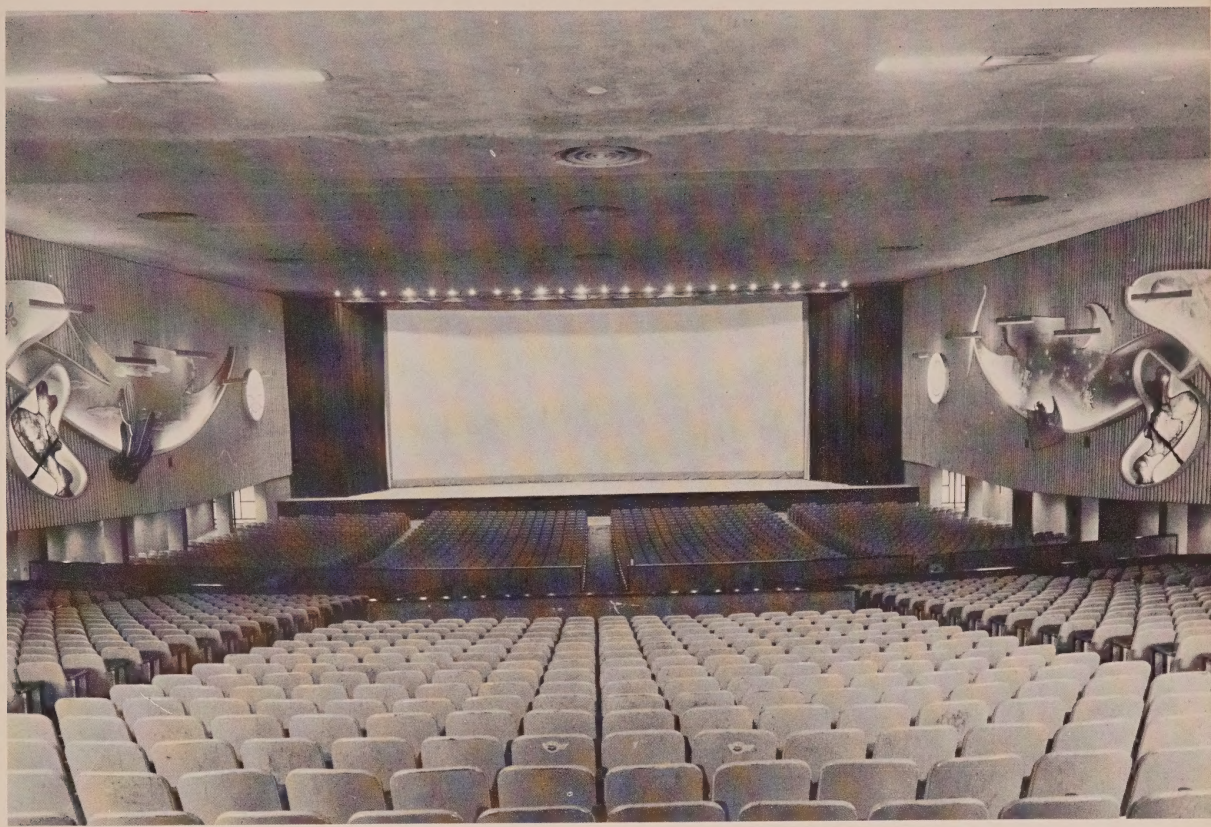
The front is simple, but attractive. A spacious lobby offers comfort and beauty. Red and light gray terrazzo floors contrast with the simple wall and ceiling decoration.

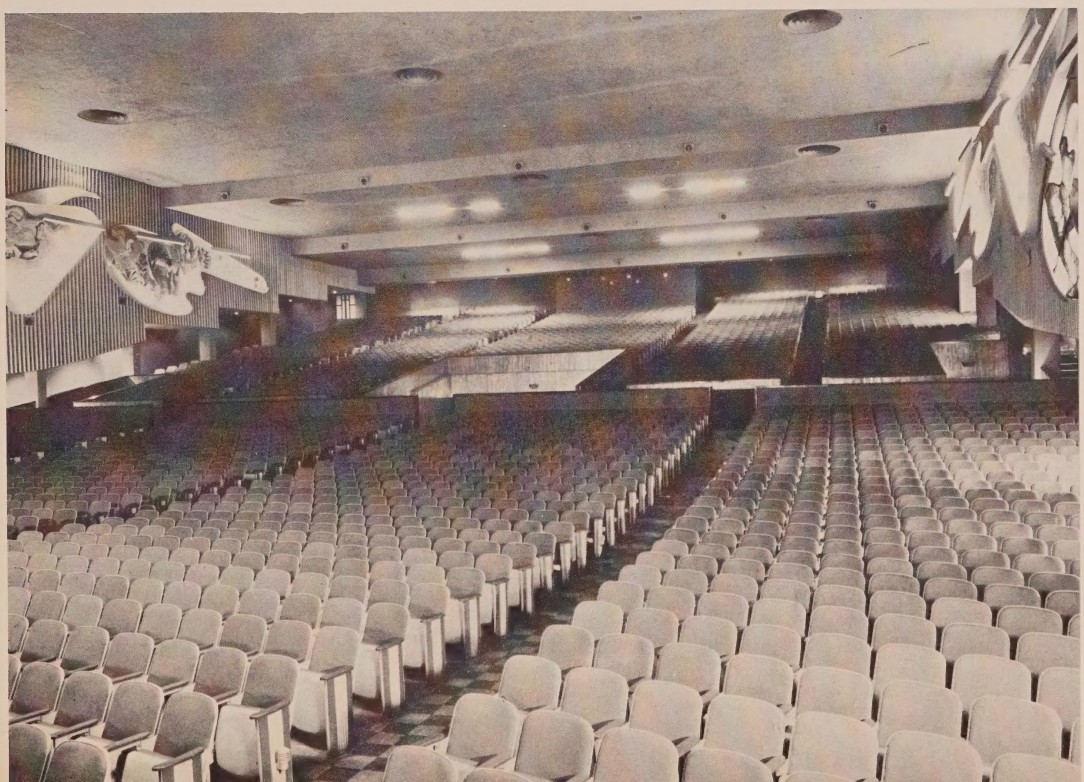
The side walls of the auditorium are decorated with eye-catching designs that are cleverly lighted.

REFERENCE DATA

OWNER: Operadora de Teatres.
ARCHITECT: Miguel Giralt.
SEATING CAPACITY: 3600.

Lenses: Bausch & Lomb Optical Co.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: Century Projector Corp.
Screen: Raytone Screen Corp.
Sound: Westrex Corp.
Supply Dealer: Westrex Corp.





EMPIRE •

Minot, N. D.

The most unique feature of this striking new theatre is the copyrighted reverse-auditorium plan, which was used for the first time.

In order to make it possible to put in the largest possible screen and number of seats in the fairly small area, the screen is located across the front of the building, above the lobby. Patrons enter the auditorium from the center instead of the rear. The auditorium floor is saucer-shaped with an upward pitch in the front and rear, and the center level.

Constructed at a cost of $400,000, this theatre has a brick front. The entrance lobby is made of granite, while the marquee is fashioned out of stainless steel and baked enamel.

The auditorium holds 1248 seats, and the 66 by 24 foot screen is one of the largest in the country.

Green and gold are the predominant colors used in the spacious lobby and foyer. The auditorium has a blue-gray ceiling, beige acoustical tile walls, and red upholstered seats.

The latest projection and sound equipment has been installed in the booth.

THE foyer is tastefully decorated and designed with patron comfort in mind. Green carpet has been used, and the ceiling painted gold, with green walls. There is a sunken lounge which has been furnished with sound-absorbing gold carpet, and large, roomy pieces of furniture.

THE auditorium has been constructed so that patrons enter from the center, and the screen is at the front of the building, above the lobby.

REFERENCE DATA

OWNER & OPERATOR: Minnesota Amusement Co.
ARCHITECT: Liebenberg & Kaplan.
SEATING CAPACITY: 1248.
COST OF BUILDING (including air-conditioning): $400,000.
COST OF EQUIPMENT: $100,000.
SIZE OF LOT: 75' x 140'.

Air Conditioning: Chrysler Corp.
Carpets: Bigelow-Sanord Carpet Co.
Chairs: American Seating Co.
Curtain Controls & Tracks: Vallen, Inc.
Decorator: Liebenberg & Kaplan.
Display Frames: Universal Corp., Sealuxe.
Generators: Hertner Electric Co.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: National Excelite.
Projection Machines: International Projector Corp., Simplex.
Screen: Raytone Screen Corp., Hilux.
Sign Letters: Wagner Sign Service, Inc.
Sound: International Projector Corp.
Supply Dealer: National Theatre Supply.
Ticket Issuing Machine: General Register Corp.

The floor slopes upward at the front and back, with the center level. The usual proscenium has been omitted. Screen installed is 66 feet wide.

UNIVERSAL •

Manila, Philippine Islands

Located in Manila, the Universal is an impressive new Philippine theatre.

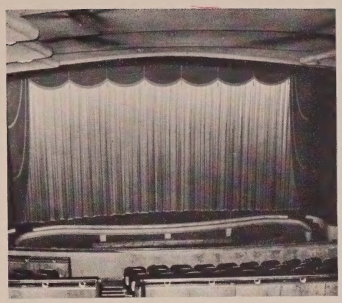
Two massive pillars flank the entrance to the theatre. The name of the house is spelled out in two huge signs on the roof, with a globe of the world placed midway between them.

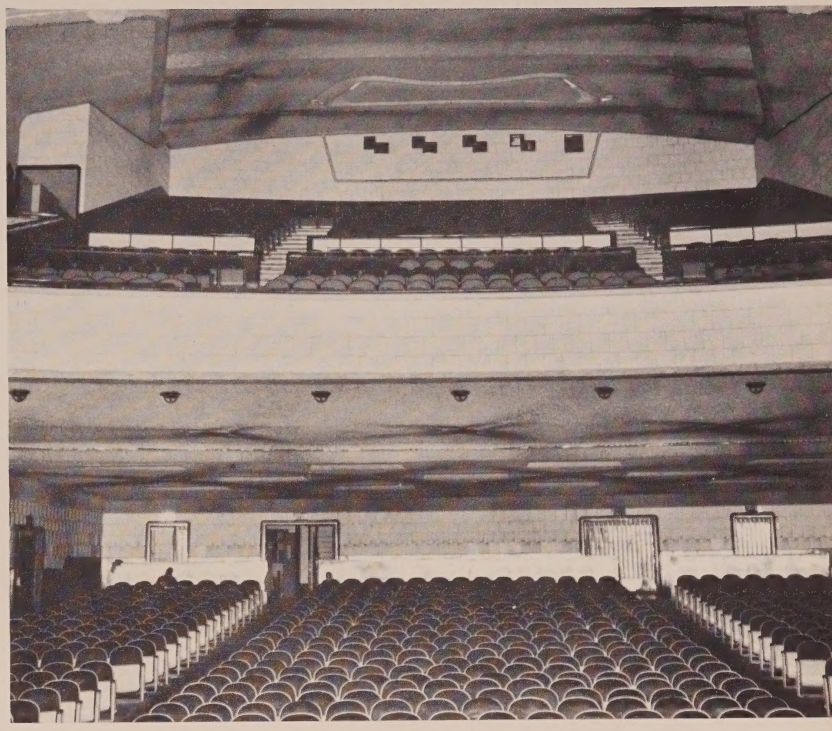
The interior gives a solid and substantial impression. The auditorium is highlighted by the 50 foot wide screen and the curtains which have been installed. The latest projection and sound equipment is used.

With a seating capacity of 1,396, this theatre is one of the largest on the islands, as well as one of the best.

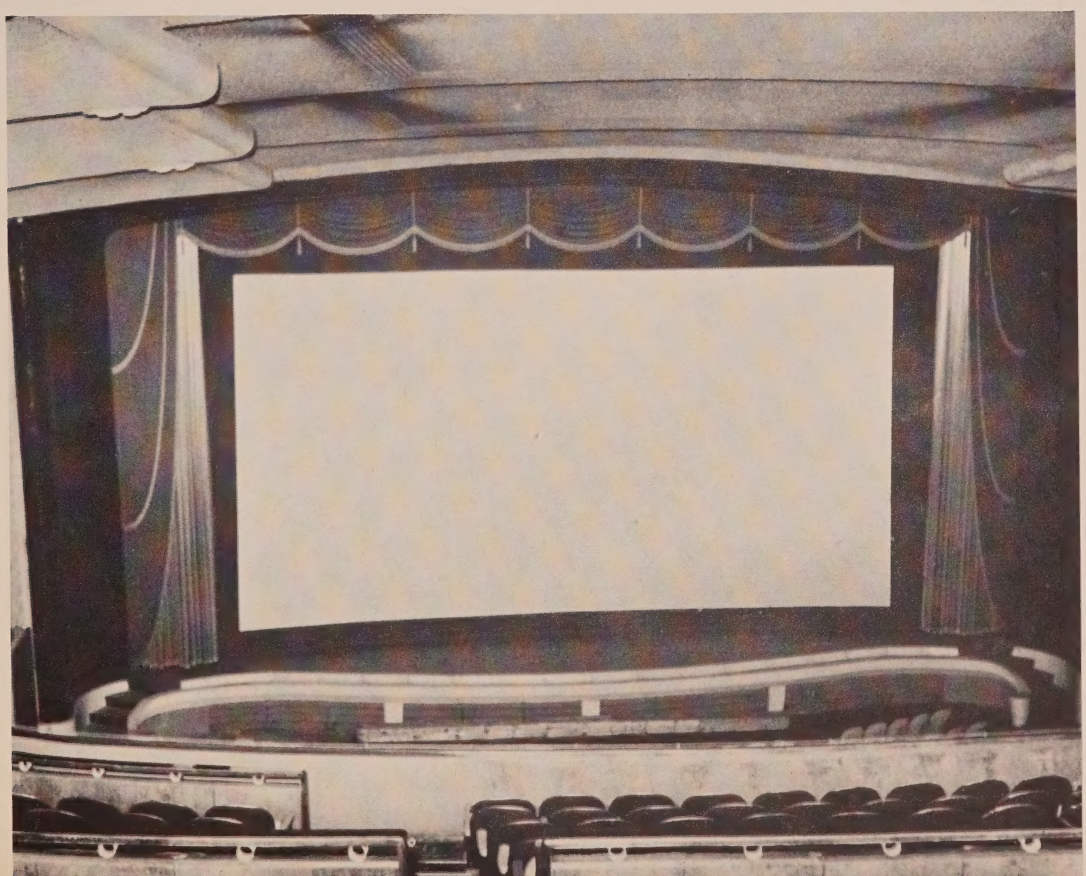
REFERENCE DATA

Curtain Controls & Tracks: J. R. Clancy, Inc.
Generators: Imperial Electric Co.
Projection Lamps: Strong Electric Corp., Mogul.
Projection Machines: Century Projector Corp.
Screen: Raytone Screen Corp., Hilux.
Sound: Westrex Corp.
Supply Dealer: Westrex Corp.





THE Universal auditorium boasts a 26½ by 50 foot wide screen. The decorating scheme used in the auditorium and other portions of this theatre has been kept simple, but attractive.



ACORN •

Thousand Oaks, Calif.

The Acorn is a fine example of a small theatre, with a seating capacity of 450, that was constructed at a very low cost, by today's standards.

One of the most interesting features is the seating arrangement. According to the owner, this is the first theatre in the state which has employed Continental seating. With this type of seating all longitudinal aisles are eliminated with the exception of the aisles against the side walls of the auditorium. In the Acorn, it is 44 inches back-to-back between the rows, with two side aisles.

The front is aquamarine, and the theatre sign is green. The entrance is flanked by two small oak trees illuminated by baby spotlights under the marquee.

Laminated wood arches have been used in the auditorium to create an interesting effect. Blue, gray, and red are the predominant auditorium colors.

The lobby and foyer are also decorated in shades of blue, gray, and rose.

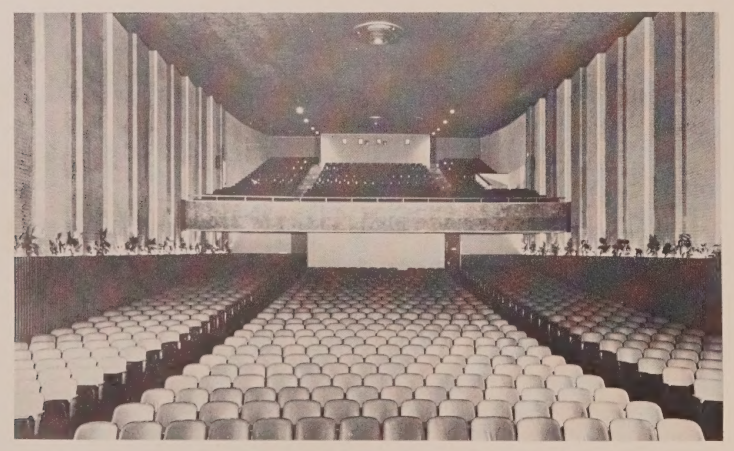
The second floor of the theatre houses the projection booth. In addition, there is a two bedroom apartment on the second floor to provide living quarters for the theatre manager.

REFERENCE DATA

OWNER & OPERATOR: Mr. & Mrs. D. C. Goshay.
ARCHITECT: R. W. Polley.
SEATING CAPACITY: 450.
COST OF BUILDING: $46,000.
COST OF EQUIPMENT: $20,000.
SIZE OF LOT: 150′ x 600′.

Chairs: American Seating Co.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless.
Projection Machines: Century Projector Corp.
Rewinders: Goldberg Bros.
Sign Letters: Wagner Sign Service, Inc.
Sound: Century Projector Corp.
Supply Dealer: Pembrex Theatre Supply.

THE auditorium is one of the very few in this country to feature a Continental seating arrangement. Laminated wood arch ceiling is used.



AMBASSADOR •

Havana, Cuba

Constructed at a cost of one-quarter of a million dollars, the Ambassador is an excellent new addition to the theatres of Havana, Cuba.

The front of this theatre is particularly appealing, and is sure to draw the attention of the passerby. The building itself is of brick construction.

With a seating capacity of 1500, the auditorium is spacious and well laid out. The side walls are of brick with the lower portion covered with wood. At the point where the wood and brick meet tropical plants have been used, with spotlights set underneath for use as part of the house lighting system.

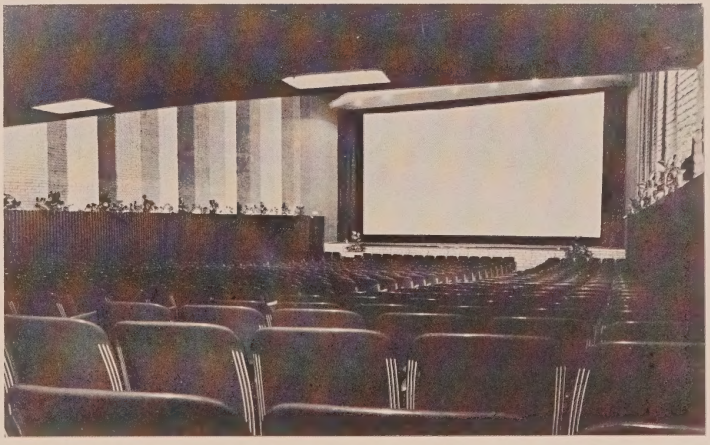
The theatre is equipped with a wide screen, and is able to show CinemaScope and the other standard wide screen systems.

A WIDE screen and comfortable chairs are of prime importance in the theatre auditorium.

REFERENCE DATA

OWNER: Operadora Moffe, S.A.
SEATING CAPACITY: 1500.
COST OF BUILDING & EQUIPMENT: $250,000.

Chairs: American Seating Co.
Generators: Hertner Electric Co.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: National Excelite.
Projection Machines: International Projector Corp., Simplex.
Sign Letters: Bevelite Corp.
Sound: International Projector Corp., Simplex X-L.
Supply Dealer: National Supply S.A.
Ticket Issuing Machine: General Register Corp.



VILLA •

Malta, Mont.

Although the front of this theatre is fairly simple in design, it has captured a mood that is bright and inviting.

The front is made of tan roman brick facing, and the boxoffice is white stucco. Smiling masks on the marquee and pylon add a cheery touch.

The lobby and foyer walls are of smooth plaster painted light tan, with green floor covering.

Lighting fixtures in the auditorium are recessed with automatic dimming controls. The waterfall curtain is lighted by colored ceiling spots.

In addition to offering its patrons wide screen entertainment and optical and magnetic stereophonic sound, this theatre has a number of other interesting features.

The boxoffice is so constructed that tickets may be purchased either inside or outside the theatre. A soundproof cryroom is appreciated by the mothers and the patrons who are not disturbed.

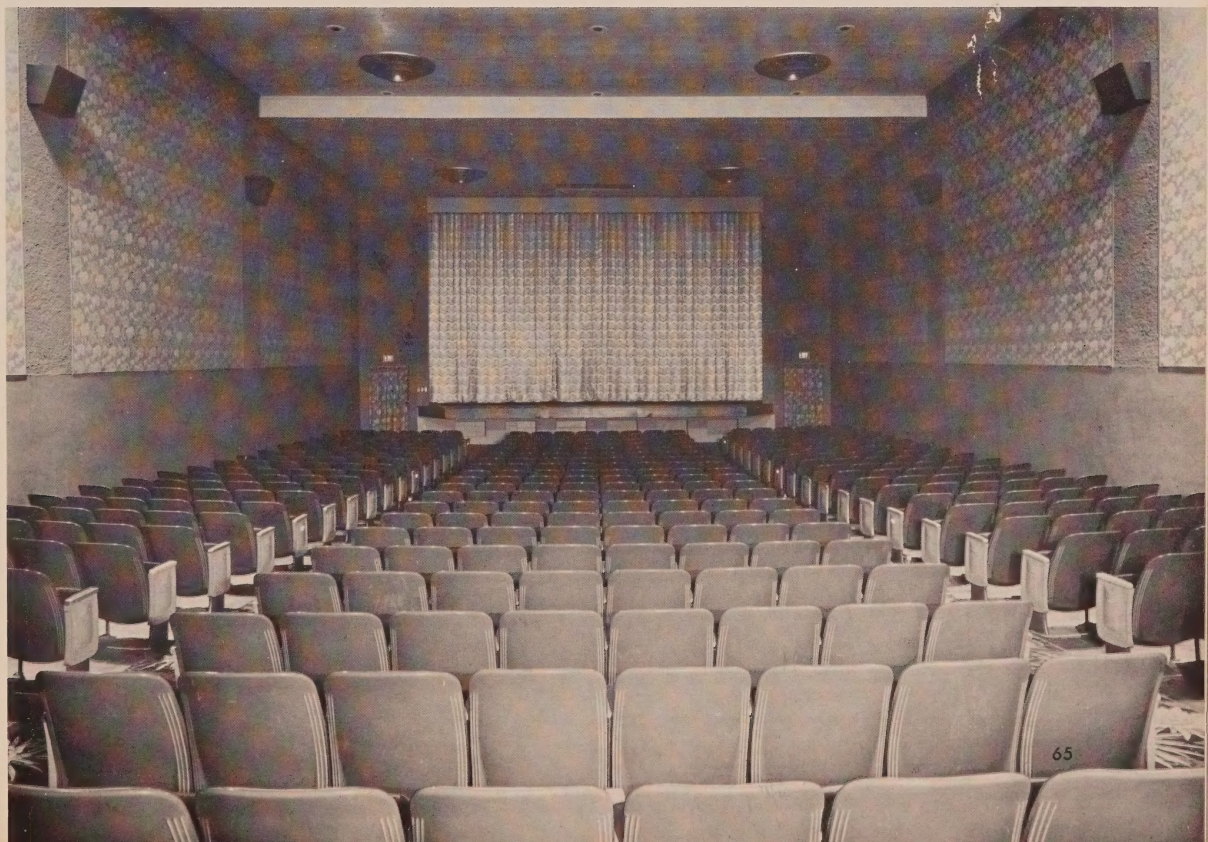
The soda shop next to the theatre, which is also operated by the owners of the Villa, is so constructed that a window opens into the theatre lobby permitting the patrons to make purchases.

Pipes have been laid under the sidewalk in front of the theatre so that snow and ice may be melted upon contact.

REFERENCE DATA

OWNER: Carl W. Veseth.
ARCHITECT: Harry L. Percy.
SEATING CAPACITY: 500.
COST OF BUILDING: $129,000.
COST OF EQUIPMENT (including air-conditioning): $28,000.
SIZE OF LOT: 100′ x 140′.

Carpets: A. & M. Karagheusian, Inc.
Chairs: Heywood-Wakefield, American Seating Co.
Display Frames: Poblocki & Sons.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: International Projector Corp., Simplex.
Projection Machines: J. E. McAuley Mfg. Co., Peerless Magnarc.
Rectifiers: Strong Electric Corp.
Screen: Raytone Screen Corp., Hilux.
Sign: Adler Silhouette Letter Co., Inc.
Sign Letters: Bevelite Corp.
Sound: Magnetic-Motiograph, Inc.; Optical-RCA.
Supply Dealers: National Theatre Supply, B. F. Shearer, Movie Supply Co., Modern Theatre Supply Co.



ALEXANDER •

St. Croix, Virgin Islands

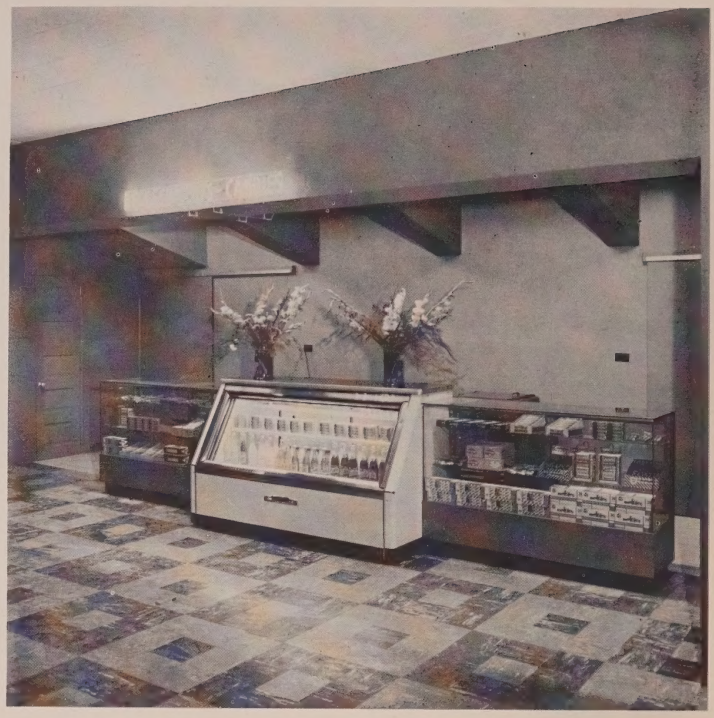
Located on St. Croix, the third largest island in the Virgin Island group, the Alexander is a well constructed house with a seating capacity of 652.

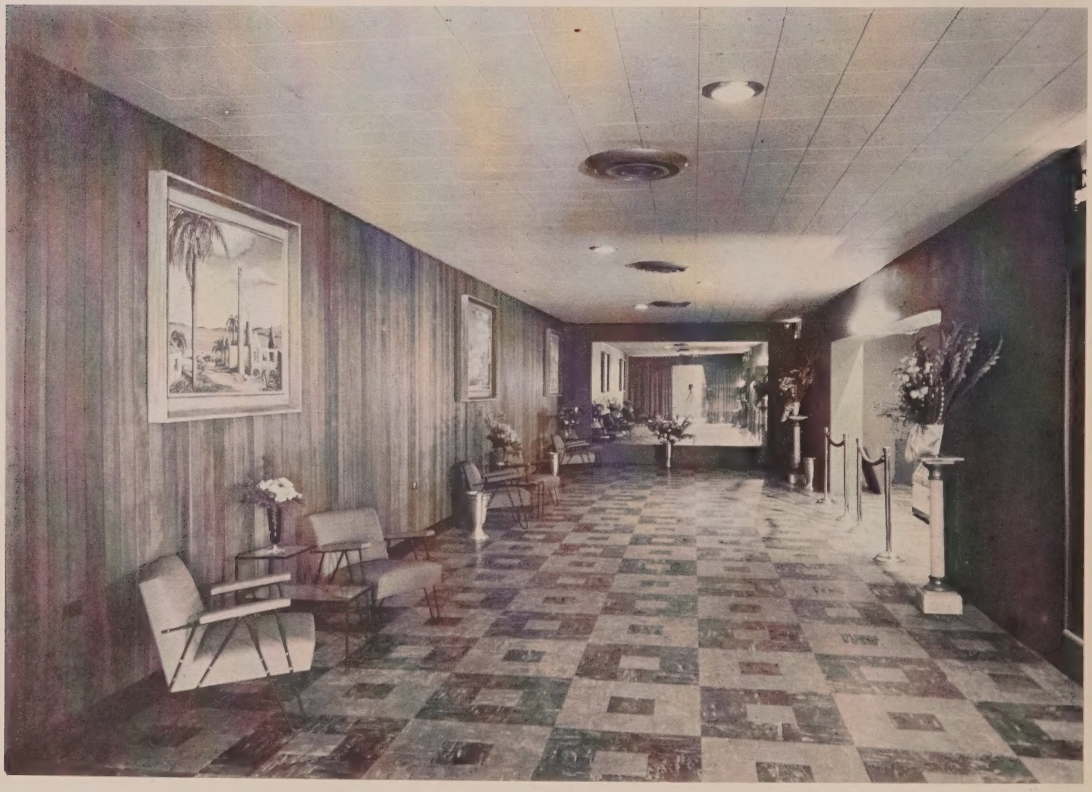
The equipment includes the latest projection and sound systems, and the auditorium has a CinemaScope size screen.

One of the services provided is a cry-room complete with cribs, play pens, and seats for the mothers.

The foyer has wood panel walls, and colorful paintings of local scenes provide a nice touch. A large mirror at one end of the foyer creates an illusion of great depth.

A well stocked concession stand is located in a small alcove just off the lounge and lobby area.



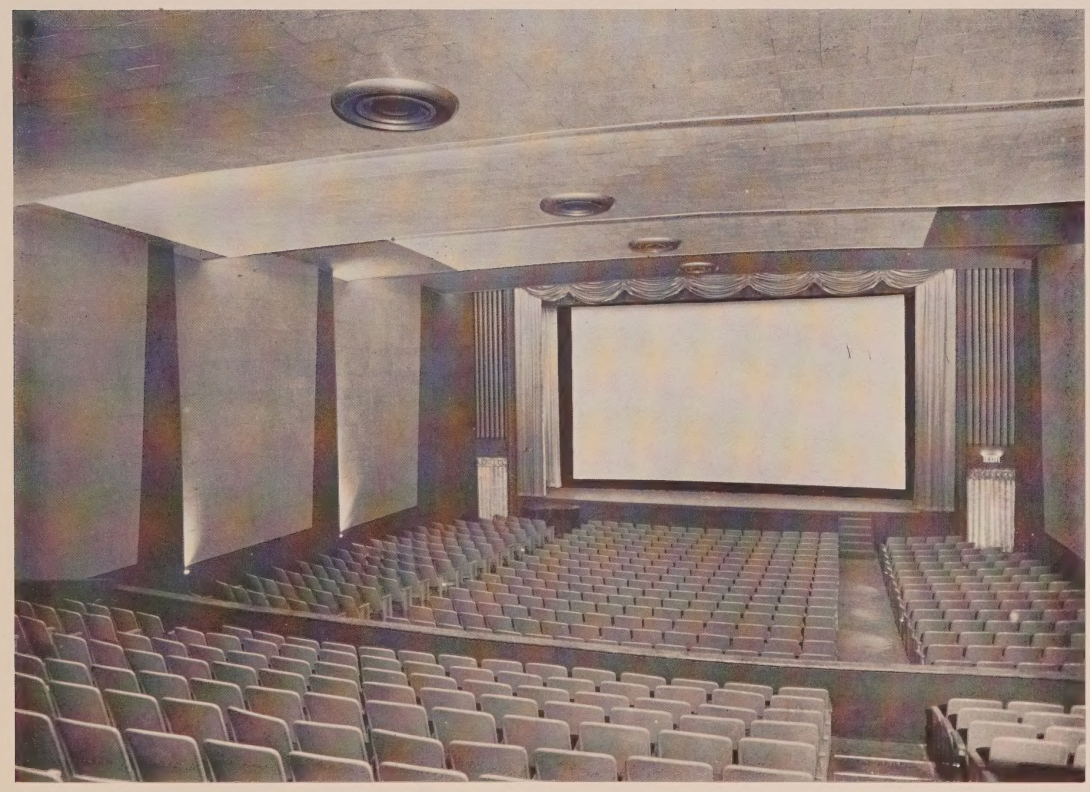


WITH A seating capacity of 652, this theatre is well designed, and equipped to offer its patrons fine films in comfortable surroundings.

REFERENCE DATA

OWNER: John Alexander.
OPERATORS: John Alexander & Erwin Gross.
ARCHITECT: Jorge Julia Pasarell.
SEATING CAPACITY: 652.

Chairs: International Seat Corp.
Draperies & Stage Curtains: International Div. Norpat, Inc.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: Century Projector Corp.
Sign Letters: Wagner Sign Service, Inc.
Sound: Westrex Corp.



PALM •

Ft. Walton Beach, Fla.

Effective use of permastone on the exterior and interior portions of this theatre helps to create an atmosphere that would be expected in Florida.

The front is done in gray and white permastone, with black mortar joints. A large palm tree and stars have been made of neon tubing, and they are seen for quite a distance at night.

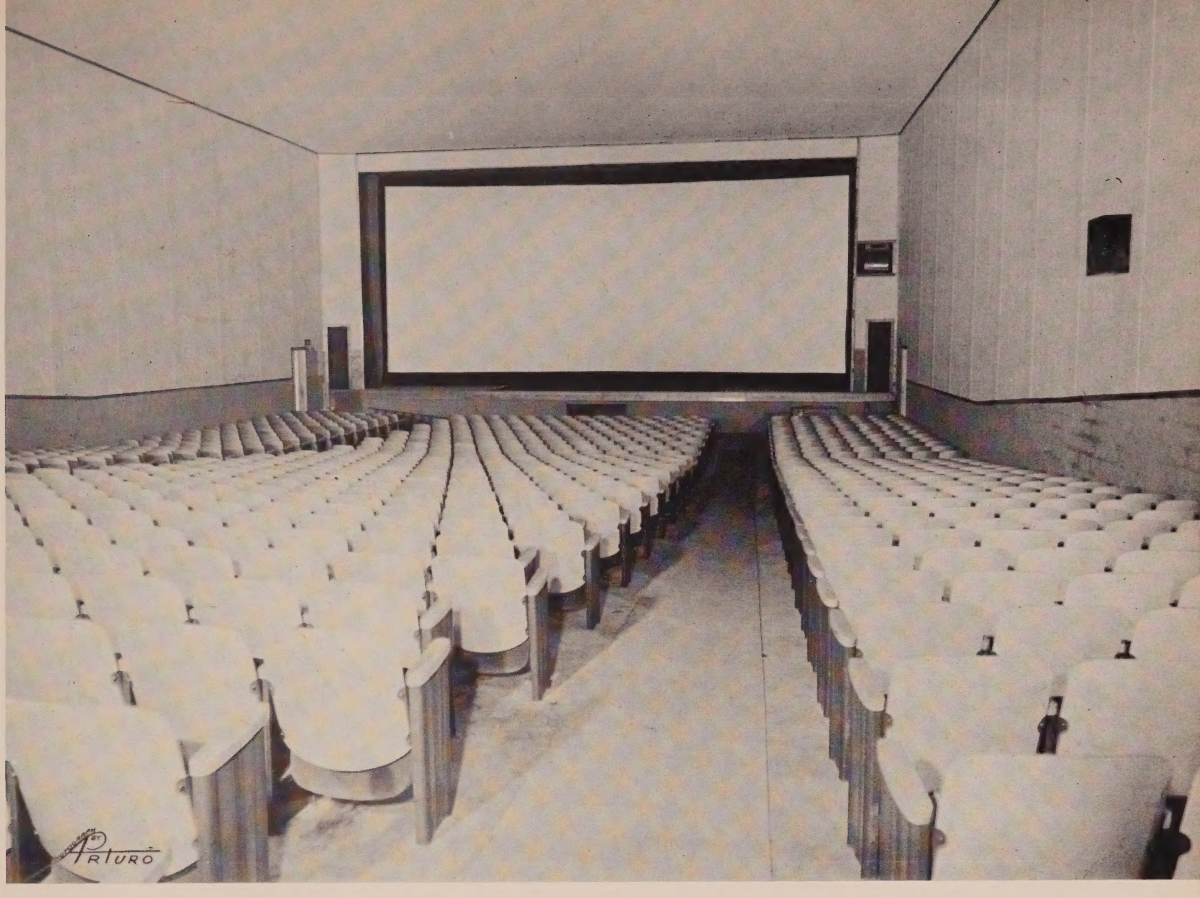
The side and front walls of the lobby are done in veragated permastone. The floors are of flagstone tile and asphalt.

The auditorium design is simple and functional, in keeping with today's thinking about not decorating the auditorium so that it will draw patron attention from the screen.

The screen is 50 by 20 feet, and a complete stereophonic sound system, with 16 speakers located throughout the auditorium, is employed.

As a service to patrons the lounge has been constructed with a glass panel facing the screen.

The theatre is flanked by a local radio station and furniture store.

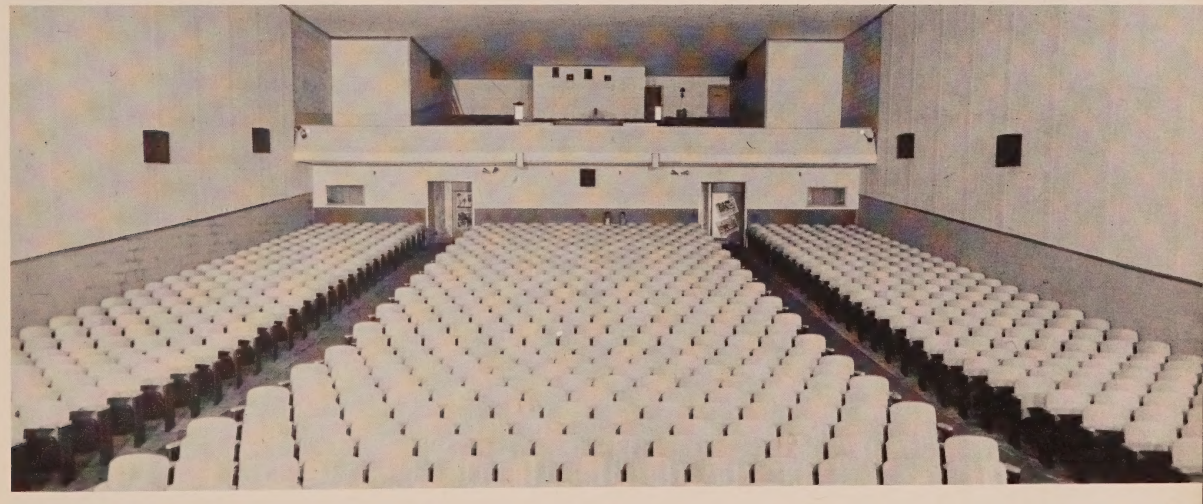


REFERENCE DATA

OWNER: Barrow Theatres, Inc.
OPERATOR: J. C. Taylor.
SEATING CAPACITY: 1200.
COST OF BUILDING: $90,000.

COST OF EQUIPMENT (including air-conditioning): $40,000.
SIZE OF LOT: 300' x 450'.
Chairs: International Seat Corp.
Lenses: Bausch & Lomb Optical Co.

Projection Lamps: RCA.
Projection Machines: RCA.
Screen: RCA.
Sound: RCA.
Supply Dealer: Southeastern Theatre Supply Co.



EVER •

Manila, Philippine Islands

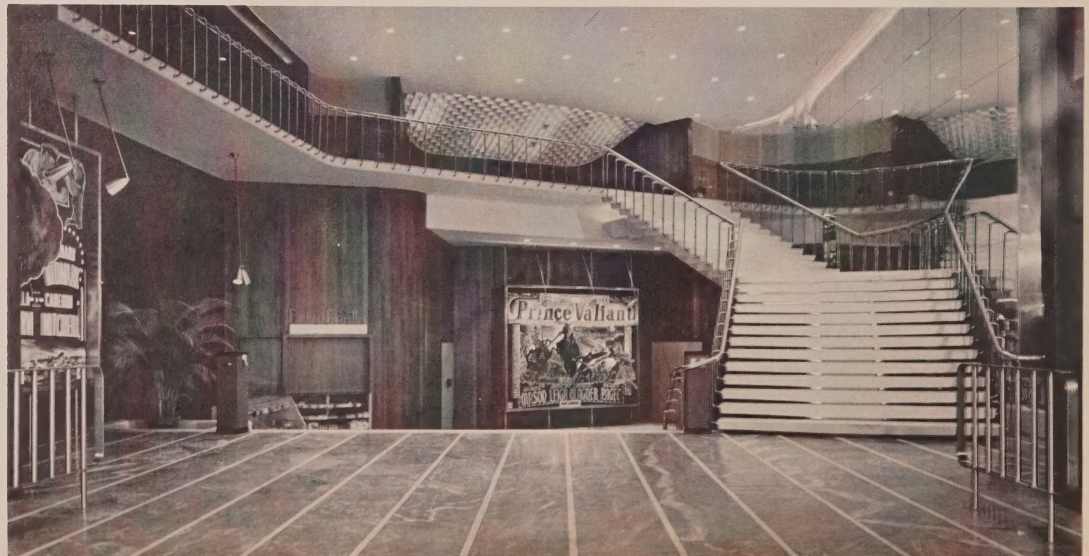
Another first class theatre built in Manila is the Ever. The theatre sign was designed as an integral part of the front by curving the vertically striped marble and black marbrite finished front wall.

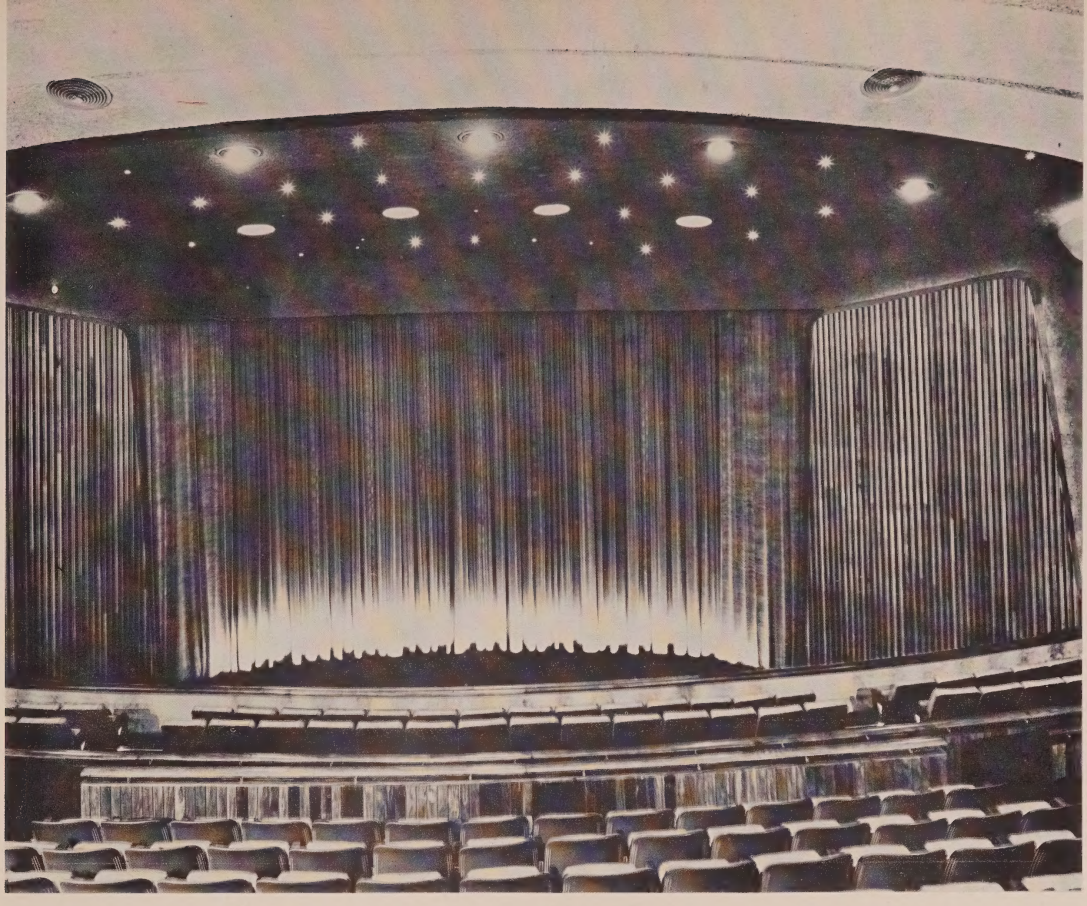
For the interior a subdued color scheme was used; black, gray, off-white, and varnished wood. Bright colors were used for accent on important areas.

An interesting effect was achieved in the lobby where the ceiling is actually a reflection of the floor, the egg-crate portion of it being directly above the striped floor. The off-white dropped ceiling gives the illusion of floating; this is accomplished by hidden covelights.

The auditorium measures 105 by 86 feet, with a height of 48 feet. Holding 1300 seats the auditorium is designed along simple lines, with special consideration given to the wide CinemaScope screen.

Midnight blue is used on the ceiling of the auditorium so that it forms part of the wall, creating an illusion of infinite space. Acoustical treatment of the walls takes the form of a fence of irregularly spaced wood rails, behind which is a surface treated with acoustical plaster. This serves to break up the sound waves.





THE auditorium at the Ever holds 1300 seats. An illusion of infinite space is created by painting the ceiling a midnight blue so that it forms part of the wall. The curved lines and slopes of the ceiling produce a good acoustic effect. A 40 by 20 foot screen was used.

REFERENCE DATA

OWNER: Luzon Theatres, Inc.
OPERATOR: Rufino Brothers.
ARCHITECT: Juan F. Nakpil.
SEATING CAPACITY: 1300.
COST OF BUILDING: $575,000.
COST OF EQUIPMENT (including air-conditioning): $95,000.

Air Conditioning: Carrier Corp.
Chairs: American Seating Co.
Curtain Controls & Tracks: Vallen, Inc.
Generators: Hertner Electric Co.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarc.
Projection Machines: International Projector Corp., Simplex X-L.
Rewinders: Goldberg Bros.
Screen: Raytone Screen Corp., Hilux.
Sign Letters: Wagner Sign Service, Inc.
Sound: Westrex Corp.
Supply Dealer: Westrex Corp., S. M. Berger Co.
Ticket Issuing Machine: General Register Corp.

COMMUNITY •

Kingston, N. Y.

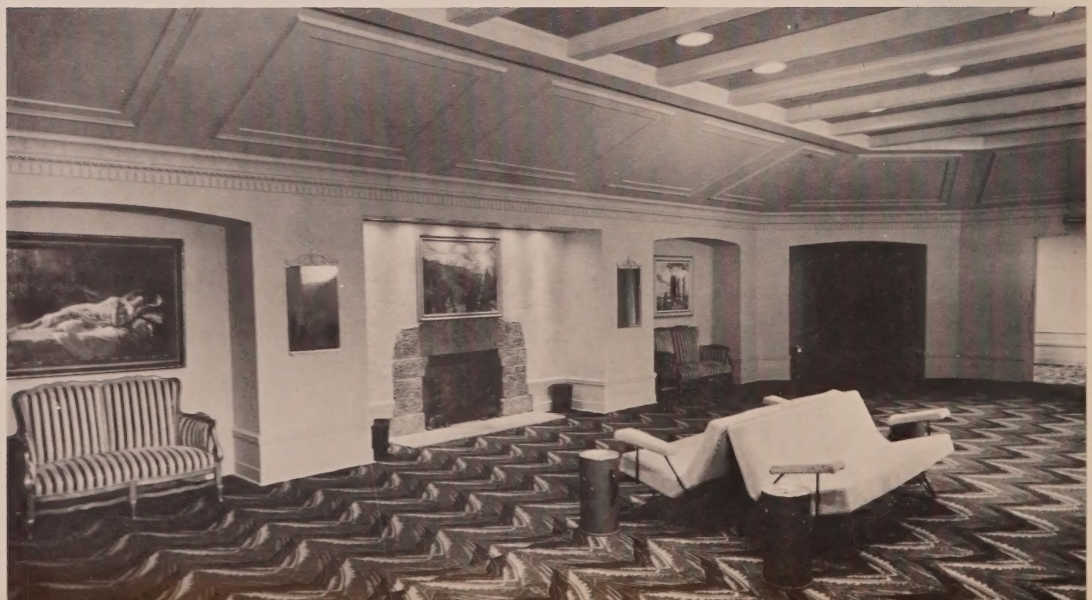
One of the outstanding remodeling jobs is the Community. The most dramatic change was the front. The portico and wood columns extend to the curb and are visible for great distances. At night the front is lighted by spotlights from across the street and lights recessed into the portico ceiling.

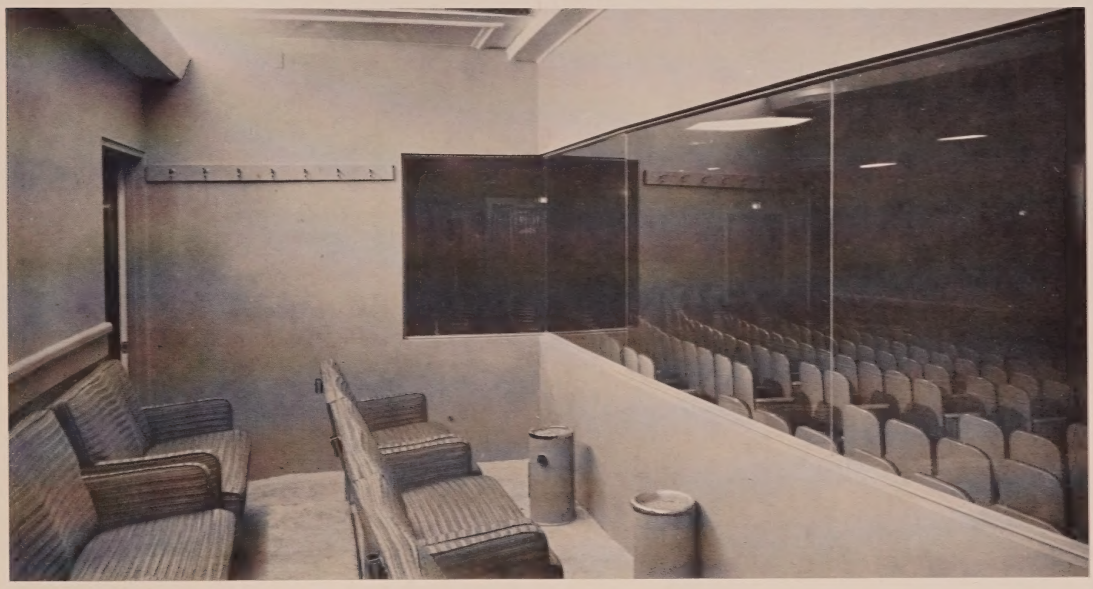
The outer lobby is tiled, and red brick and marble is at the front edge of the lobby. The conventional boxoffice was removed and a counter type installed.

A complete modernization job was done on the mezzanine. Dark paneling was removed, lighting modernized and increased, and attractive wall-to-wall carpeting and new furniture installed.

A novel feature is the "party room." Designed to accommodate 16 people, it is located at the right rear of the auditorium. The room is soundproof and has its own speakers and air conditioning outlets. The room is primarily designed to be sold to groups for a theatre party.

The auditorium was remodeled with old ornamentation removed.





ALL THE old ginger-bread on the ceilings and walls were eliminated. New seating was put in and the special "party room" was put in use.

REFERENCE DATA

OWNER & OPERATOR: Walter Reade Theatres, Inc.
ARCHITECT: John J. McNamara.
SEATING CAPACITY: 1569.

Carpets: A. & M. Karagheusian, Inc.
Chairs: Griggs Equipment Co.
Generators: J. E. Robin, Inc.
Lenses: Projection Optics Co., Inc.; Bausch & Lomb Optical Co.
Projection Lamps: RCA.
Projection Machines: International Projector Corp., Simplex.
Rectifiers: Forest-Harrison, RCA.
Screen: Radiant Mfg. Co., Astrolite.
Sound: International Projector Corp.
Ticket Issuing Machine: General Register Corp.

CITY HALL •

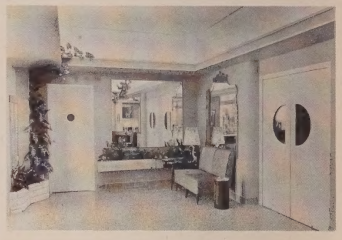
Havana, Cuba

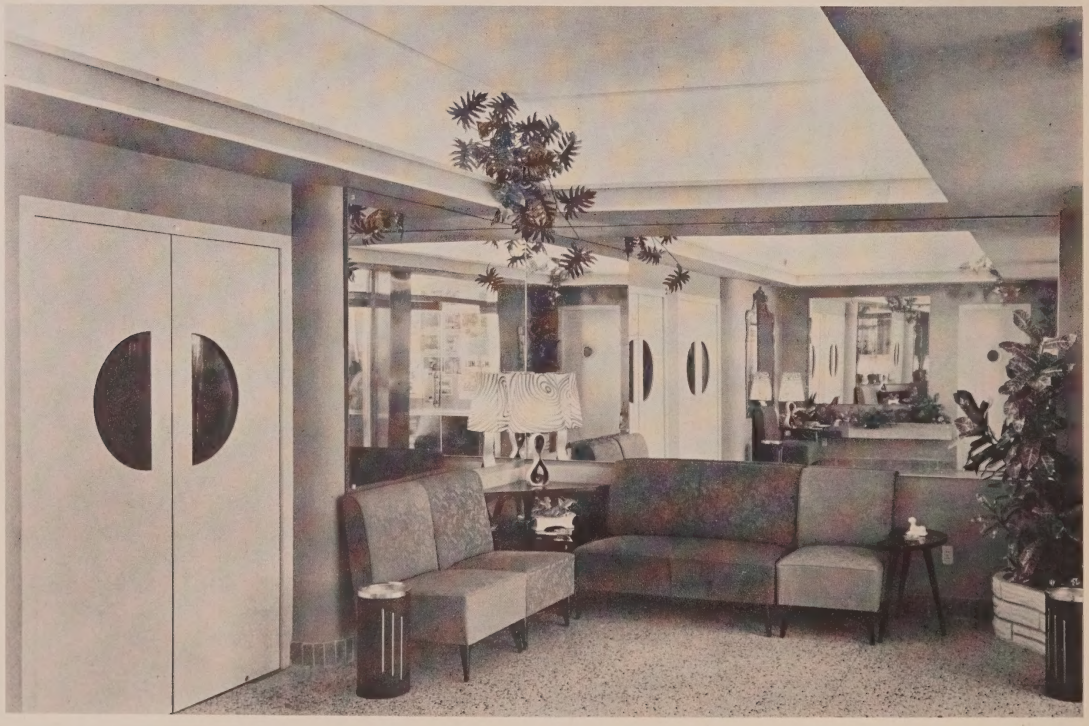
The scene of a great deal of new indoor theatre construction, Havana recently saw the opening of the City Hall.

Costing over one-quarter of a million dollars to construct, this is an up-to-date house that has been equipped and decorated with taste and an eye for showmanship.

The sturdily constructed building is made of concrete and structural steel. A circular boxoffice is located in the center of the outer lobby, and is flanked on either side by two columns. The facade is built along straight functional lines with the name of the theatre prominently placed on the large sign that runs from the roof to the top of the marquee.

The interiors are smartly decorated with a liberal use made of mirrors and recessed lighting. Comfortable pieces of modern furniture are to be found in the lounges and inner lobby. The latest projection and sound equipment is used.





Holding 1368 seats on its two levels, the auditorium is tastefully decorated. It is also air conditioned, an important feature in Cuba.

REFERENCE DATA

OWNER: Antonio Luaces Vda. de Fernandez.
ARCHITECT: Jose Juaces & Ladron de Guevara.
SEATING CAPACITY: 1368.
COST OF BUILDING: $150,000.
COST OF EQUIPMENT (including air-conditioning): $100,000.

Air Conditioning: Carrier Corp.
Carpets: Alexander Smith and Sons.
Chairs: American Seating Co.
Curtain Controls & Tracks: Automatic Devices Co.
Generators: Hertner Electric Co.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless.
Projection Machines: International Projector Corp., Simplex X-L.
Screen: Walker-American Corp.
Sign Letters: Bevelite Corp.
Sound: International Projector Corp.
Supply Dealer: National Supply, S.A.
Ticket Issuing Machine: General Register Corp.

RKO KEITH'S •

Washington, D. C.

This famous old theatre was recently given a completely new appearance as part of a remodeling project costing over $200,000.

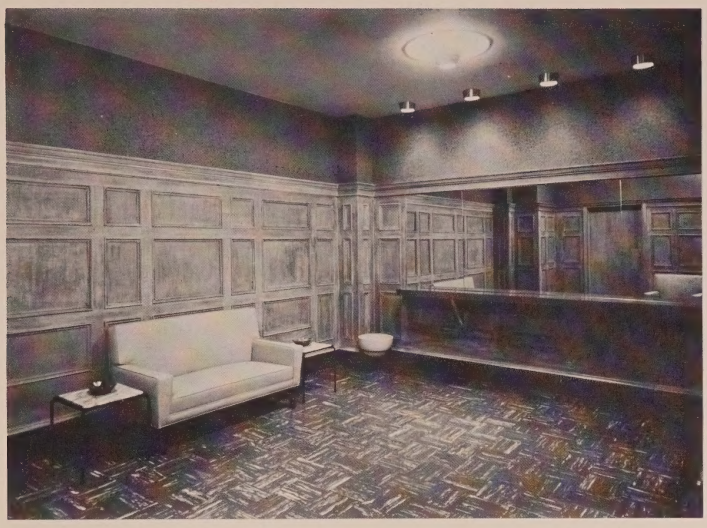
A new stainless steel boxoffice was put in with a completely egg-crate ceiling. The outside entrance was covered with a slip-proof rubber and vinyl material.

The lobby is separated from the grand foyer by a new screen of glass doors, and the walls treated with a combination of marble, mirrors, and walnut wood surfaces.

A new refreshment stand was installed constructed of pickled walnut facing with a mirror back and the wall around the stand covered with corrugated transite.

A completely new ladies cosmetic room was part of the remodeling plan. The walls are in pickled oak with one entire wall in mirror, with a makeup shelf as an integral part of the mirror. The furniture is covered with gray and yellow linen plastic material.

The entire auditorium was renovated.

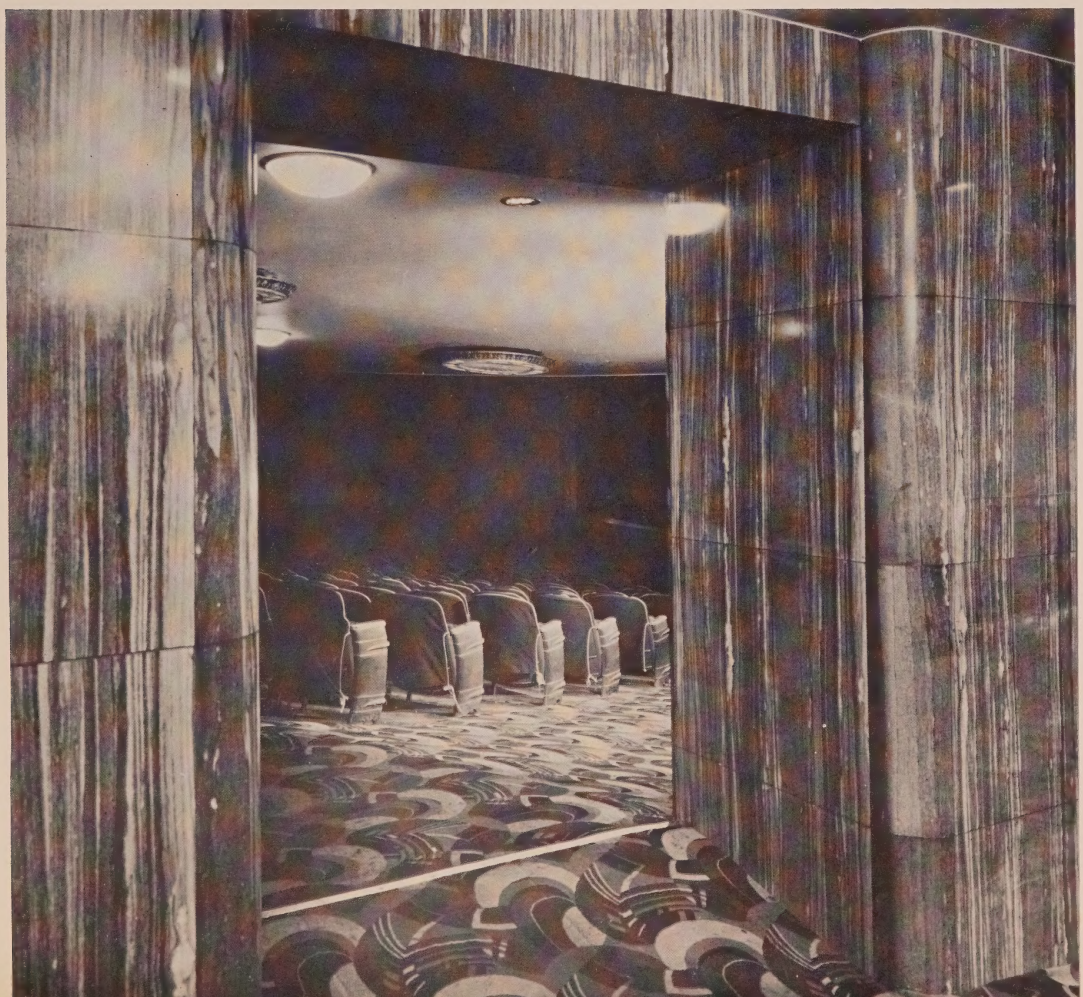


AS PART of the renovation, a new ladies lounge was installed. The walls are of pickled oak wood, with one wall covered by a mirror with a make-up shelf underneath. In addition, the rest room facilities were completely modernized. Another major change was the creation of a new entry to the auditorium, which was built from space that had formerly been used as a ladies rest room.

REFERENCE DATA

OWNER & OPERATOR: Wotan Theatre Corp.
ARCHITECT: John J. McNamara.

Air Conditioning: Carrier Corp.
Carpets: Thomas L. Leedom Co.
Chairs: Heywood-Wakefield.
Draperies: Frank W. Stevens.
Projection Lamps: J. E. McAuley Mfg. Co.
Projection Machines: International Projector Corp., Simplex X-L.
Screen: Miracle Mirror.
Sound: RCA.
Theatre TV: RCA.



TIVOLI •

Hamilton, Ont., Canada

The Tivoli was converted into a modern theatre as the result of an extensive remodeling program.

Some idea of the scope of the changes made can be obtained from a listing of what was done. Included in the remodeling was an entirely new front, boxoffice, doors, hardware, display frames, marquee and sign. New floors were installed, as was a new air conditioning system and complete redecoration of the lighting fixtures and draperies.

A new wide screen was put in, as was a new refreshment stand, new carpets and seats. The cost of these changes was over $150,000.

Swedish pearl granité was used on the new front as well as on the walls of the outer lobby, which has a three color terrazzo floor.

The walls of the lobby and foyer were covered with mahogany colored Formica paneling, and rubber tiles were laid on the floor of the inner lobby.

In the auditorium, a smoking loge section was created with special ventilation facilities. There were 1141 new push-back chairs also installed.

All of the restroom facilities were modernized with particular emphasis on ladies room facilities.

REFERENCE DATA

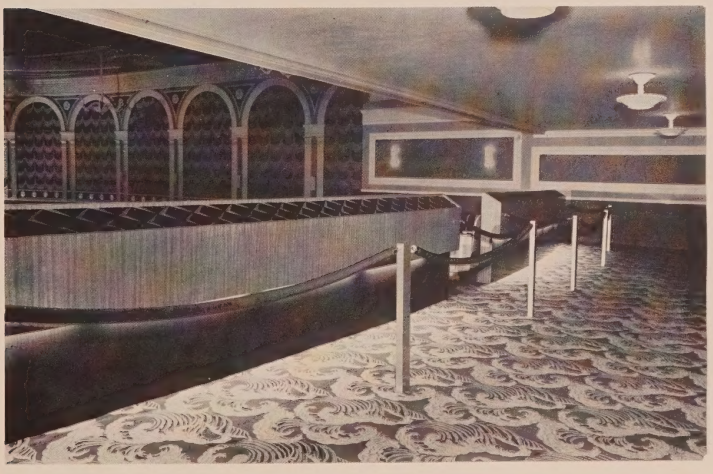
OWNER & OPERATOR: Famous Players Corp. Ltd.
SEATING CAPACITY: 1141.

Carpets: Toronto Carpet Mfg. Co. Ltd.
Chairs: Kroehler.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarc.
Screen: Miracle Mirror.
Sign Letters: Adler Silhouette Letter Co.
Supply Dealer: General Theatre Supply Co. Ltd.

INCLUDED among the changes made in the auditorium were new push-back chairs, drapes, carpets, lighting fixtures and air conditioning.

In addition, new standee rails and enclosures with concealed lighting, were installed. A new ladies powder room was part of the remodeling.

Included among the facilities available are a powder bar with mirrors, new lighting fixtures, and an attractive fabric wall covering over bar.



TEATRO ZULIMA •

Cucuta, Colombia

Nestled in the high mountains of Colombia, South America, is the small city of Cucuta, with a population of 92,000. Completely surrounded by mountains, air transportation is the only quick way to get to any major population center.

Despite the remote location, or perhaps because of it, this beautiful theatre was constructed and opened at a cost of more than half a million dollars.

The theatre is equipped for all of the latest techniques, including CinemaScope with magnetic and optical stereophonic sound.

The impressive facade is faced with marble and glass, and makes use of a three color neon sign.

The walls of the auditorium are covered with marble and acoustical plaster. The color scheme is blue-gray and cream. Also included in the auditorium are 704 of the latest type of theatre chairs. A striking combination of damascus and velvet was used for the impressive draperies and stage curtains.

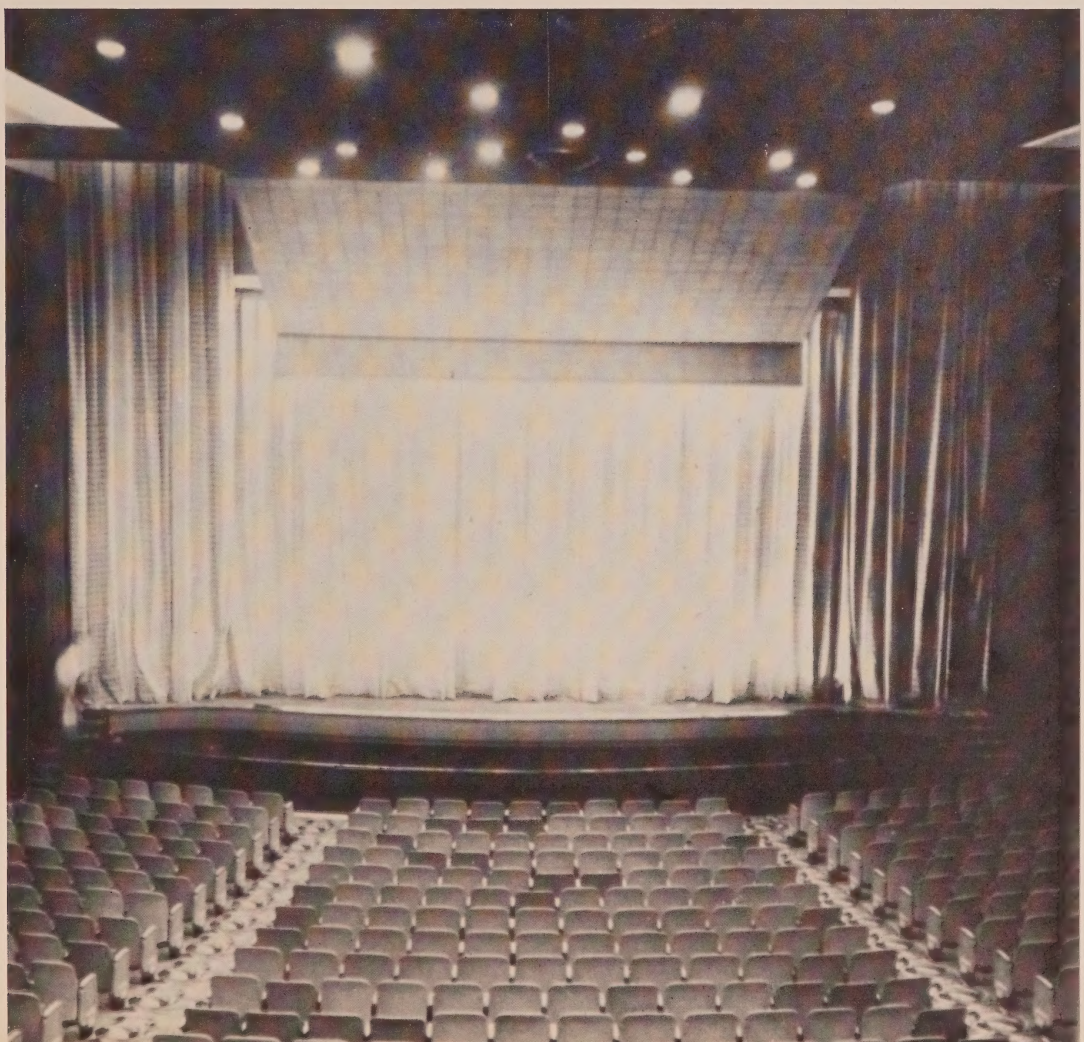
There is a spacious lobby. The walls are covered with marble and mahogany, and rubber tiles have been used on the floor. An indirect lighting system helps create a warm cordial atmosphere.

The actual structure has been constructed of reinforced concrete so that it will be able to offer the citizens of this city many years of fine entertainment in comfort and safety.

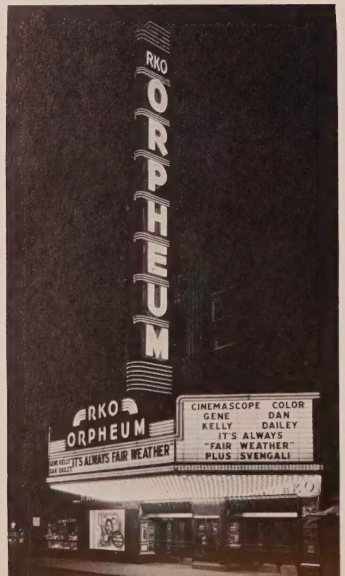
REFERENCE DATA

OWNERS: Junta de Beneficencia de Norte de Santander.
OPERATOR: Gilberto Garcia Mantilla.
ARCHITECT: Cuellar, Serrano Gomez & Cia.
SEATING CAPACITY: 704.
COST OF BUILDING: $350,000.
COST OF EQUIPMENT (including air-conditioning): $200,000.

Air Conditioning: Worthington Corp.
Carpets: Alexander Smith and Sons.
Chairs: American Seating Co.
Curtain Controls & Tracks: Vallen, Inc.
Dimmer Controls: Ward Leonard Electric Co.
Generators: Hertner Electric Corp.
Lenses: Bausch & Lomb Optical Co., Kollmorgen Optical Corp.
Projection Lamps: J. E. McAuley Mfg. Co., Peerless Magnarcs.
Projection Machines: International Projector Corp., Simplex X-L.
Screen: Radiant Mfg. Co., Astrolite.
Sign & Marquee: Bevelite Corp.
Sign Letters: Bevelite Corp.
Sound: Magnetic and Optical-International Projector Corp.
Supply Dealer: J. Glottmann S.A.
Ticket Machine: General Register Corp.



AS A RESULT of the front-to-back redecorating project, this theatre was given a completely new and modern appearance that pleases



RKO ORPHEUM •

Denver, Colo.

The largest theatre in Denver, with a seating capacity of 2600, the RKO Orpheum underwent an extensive remodeling job.

A new marquee and vertical sign helped to give the front a new look.

The grand foyer was completely changed. The walls now consist of mirrored panels separated by vertical columns of pickled walnut finish. A red carpet in a modern floral pattern was installed, and ornate plaster work removed.

The auditorium was redecorated in a beige color, highlighted by dashes of red and trimmed with gold.

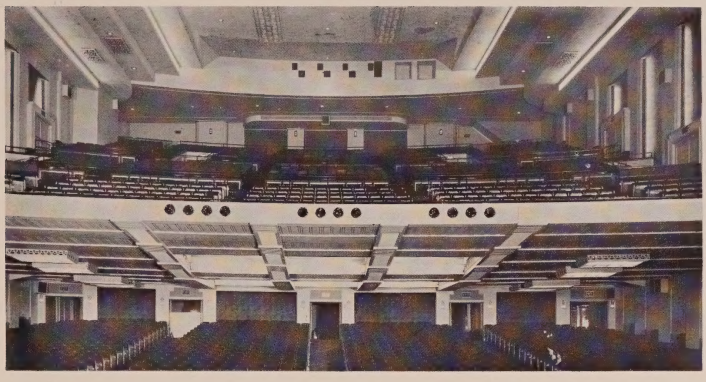
A new downlighting system has been installed that can be controlled to provide any degree of light.

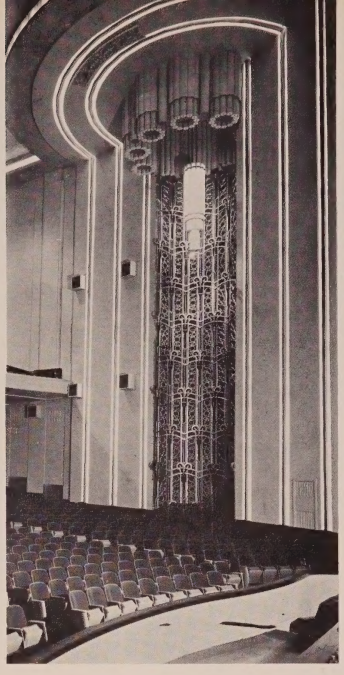
The general lounge room is done in colors complimentary to the auditorium.

REFERENCE DATA

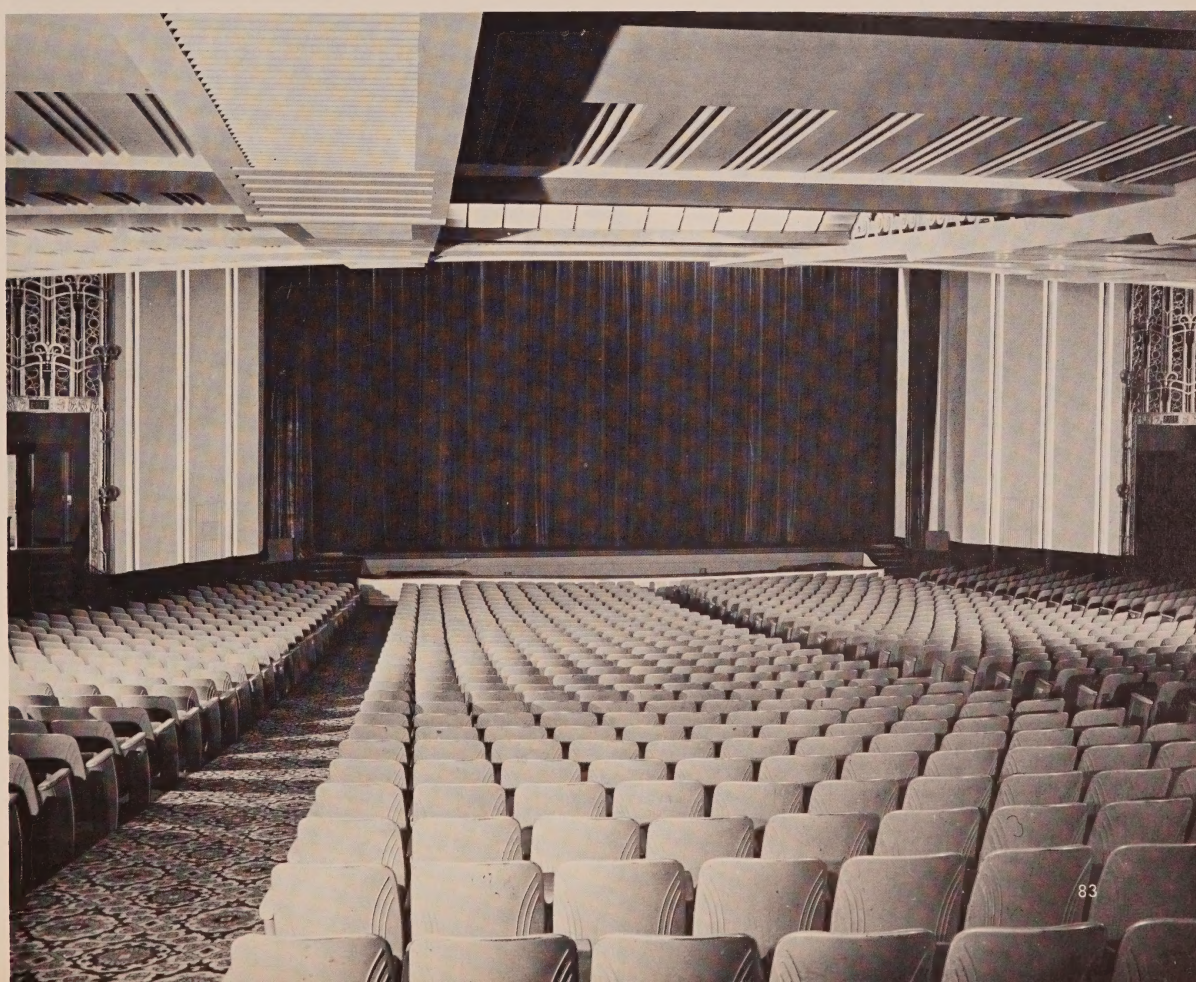
OWNER: Denver Orpheum Corp.
OPERATOR: RKO Theatres Inc.
ARCHITECT: John J. McNamara.
SEATING CAPACITY: 2600.

Carpets: Thomas L. Leedom Co.
Chairs: American Seating Co.
Decorator: Schrieber Decorating Co., Inc.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: International Projector Corp., Simplex X-L.
Screen: Miracle Mirror.
Sign Letters: Adler Silhouette Letter Co.
Sound: RCA.





THE auditorium was redecorated in a beige color with dashes of red and gold. Modern downlighting system was installed in theatre.



ABSECON DRIVE-IN •

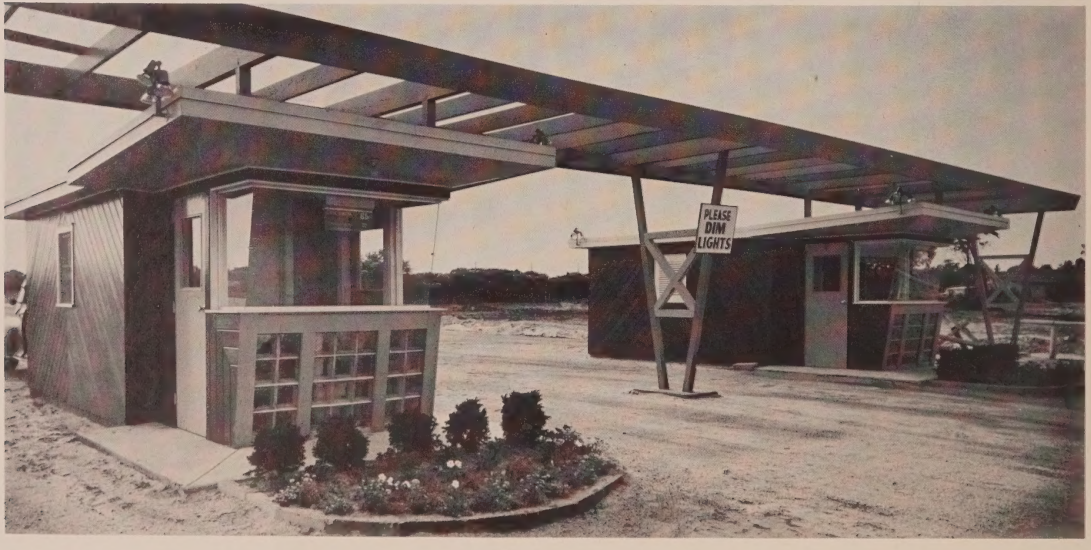
Absecon, N. J.

Located just two miles from the heart of the famous sea-shore resort of Atlantic City, the Absecon Drive-In represents one of the finest outdoor theatres in the Walter Reade Theatres circuit.

In keeping with the sea-shore atmosphere, the theatre makes use of a lighthouse pylon which faces the main highway. The attraction board employs 19-inch high wooden letters, and the light at the top of the pylon revolves similar to a lamp in a lighthouse.

The drive-in has a 1000 car capacity. There is, however, room for expansion by the construction of ramps next to the screen which would accommodate approximately 250 more automobiles.

The concession stand, projection booth, rest rooms and store rooms are all housed in a cinder block building.



REFERENCE DATA

OWNER & OPERATOR: Walter Reade Theatres, Inc.

ARCHITECT: Leon Einhorn.

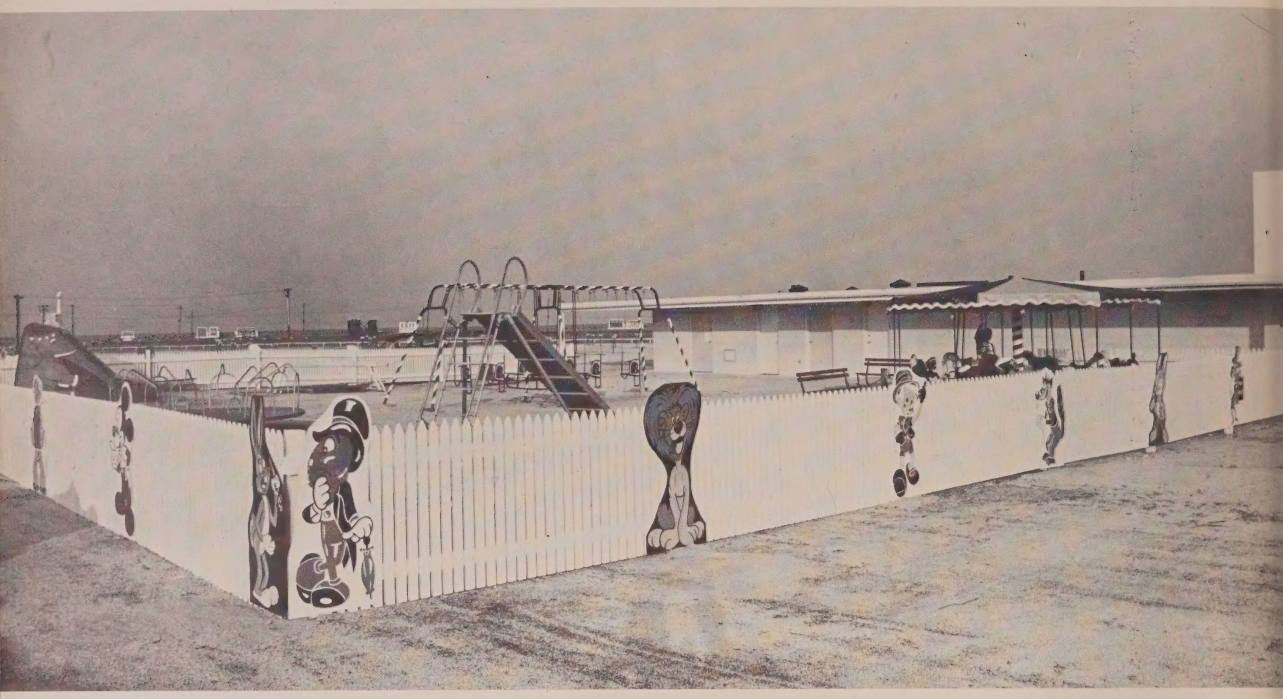
CAR CAPACITY: 1000.

SIZE OF LOT: 16 acres.

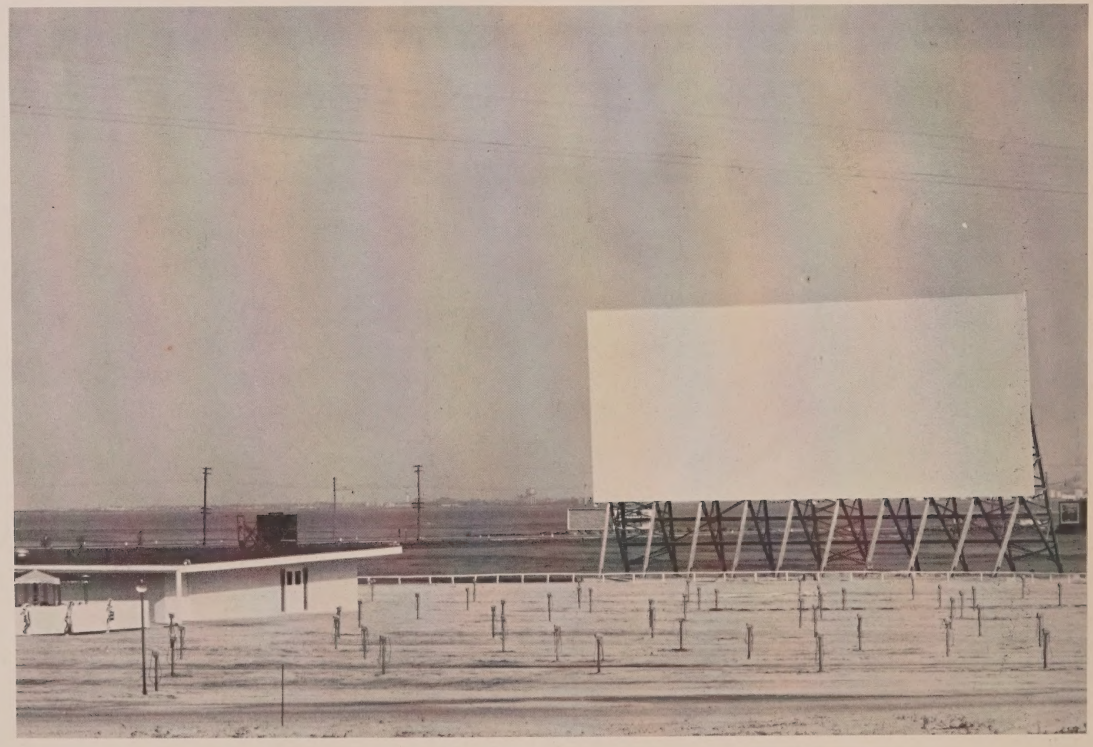
Generators: Hertner Electric Co.
In-Car Speakers: RCA.
Lenses: Bausch & Lomb Optical Co.
Playground Equipment: Miracle Equipment Co., J. E. Burke.
Projection Lamps: Strong Electric Corp.
Projection Machines: International Projector Corp., Simplex X-L.

Rewinders: Goldberg Bros.
Sound: International Projector Corp.
Ticket Issuing Machine: General Register Corp.
Ticket Chopper: General Register Corp.
Vending Machines: Sodamaster; Manley, Inc.

THE projection booth, rest rooms, and concession stand are all located in a single building. The spacious concession stand offers counter service from all three sides. Storage space is behind the stand, and ample room is provided for attendants. A patio has been constructed in front.



A GENERAL view of the Absecon Drive-In (below) taken from the rear ramp. The theatre has a 1000 car capacity with room to expand to 1250 if it is necessary. The free kiddie play area (above) is located at the rear of the concession building, and is equipped to keep youngsters occupied.



BAYSHORE-SUNRISE D-I •

Bayshore, L. I., N. Y.

Able to hold 1500 cars this new drive-in has two ticket booths capable of handling four cars at a time.

The concession building is made of cinder block and occupies over 4500 square feet. The refreshment stand employs four lanes, each fully equipped and with its own cashier.

Directly in front of the concession building is a 60 foot patio. Flanked by a number of colorful pink and yellow chairs, this area also features a juke box and before-the-show dancing space.

A number of shuffle board courts have been built directly under the screen tower. Tables with colorful beach umbrellas and chairs are also provided.

The playground has been located in back of the concession building and occupies over 10,000 square feet.

Fully equipped, the play area holds such equipment as a motor-driven merry-go-round and a ferris wheel. To further enhance the appeal of this area, it is fenced off by colorful wooden cut-outs, and a member of the staff dresses himself as a clown.

The screen tower, 135 by 54 feet, is surfaced with specially extruded and chemically treated aluminum. The tower is curved and tilted in order to present an undistorted picture.

REFERENCE DATA

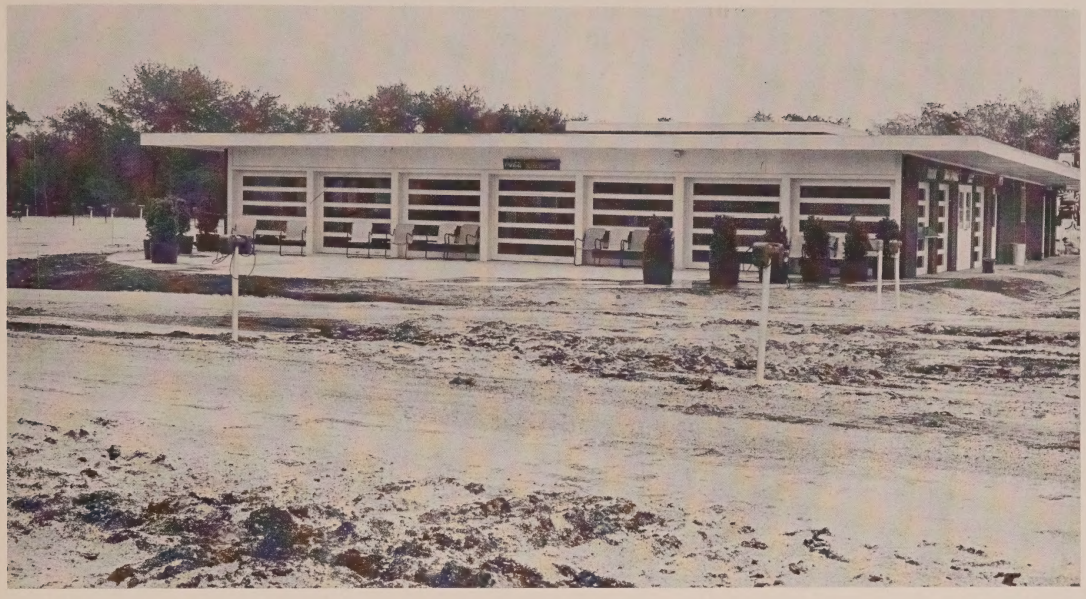
OWNER & OPERATOR: Prudential Theatres, Inc.
CAR CAPACITY: 1500.

In-Car Speakers: Ballantyne Co.
Lenses: Bausch & Lomb Optical Co.
Playground Equipment: Miracle Equipment Co.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: Motiograph, Inc.
Sound: RCA.
Supply Dealer: Capitol Theatre Supply.

ONE OF the most popular pieces of equipment in the drive-in's playground is the Miracle Star Gazer motor-driven ferris wheel, as is seen here.

SHUFFLE board courts have been built under the screen tower. Tables and chairs are also provided for the patrons who wish to watch.

IN ORDER to keep the youngsters amused, one of the theatre's staff dresses himself as a clown, and helps to supervise the play area activities.



THE CONCESSION building is made of cinder block construction and houses the projection booth as well as the concession stand and the rest rooms. There is a patio directly in front of this building. The screen tower which is 135 by 54 feet, is constructed from specially treated wood.

MIRACLE MILE DRIVE-IN •

Toledo, Ohio

Costing in excess of one half million dollars, this drive-in is located almost directly across from a huge 20 million dollar shopping center being built.

The Miracle Mile Drive-In has a cafeteria style concession stand; it provides double ramping to bring all cars closer to the screen; and is equipped with highway type maintenance equipment for snow removal in the winter.

The curved screen tower was designed for the presentation of all the wide screen projection processes, the screen itself being 60 by 120 feet. With the projection booth 425 feet from the screen, there is one of the longest projection throws in the country.

To speed entrance and exit, the box-offices have been strategically placed to handle six entrance lanes instead of the usual two, and there are 12 exits.

The marquee, said to be one of the largest in the world, is 57 feet long and 38 feet high.

A spacious 22 acre site has been used to leave room for expansion.

REFERENCE DATA

OWNER: Glass Mile Drive-In Theatre, Inc.
OPERATOR: Theatre Operating Co.
CAR CAPACITY: 1500.
COST OF BUILDING & EQUIPMENT: $500,000.

SIZE OF LOT: 22 acres.

In-Car Heaters: Arvin.

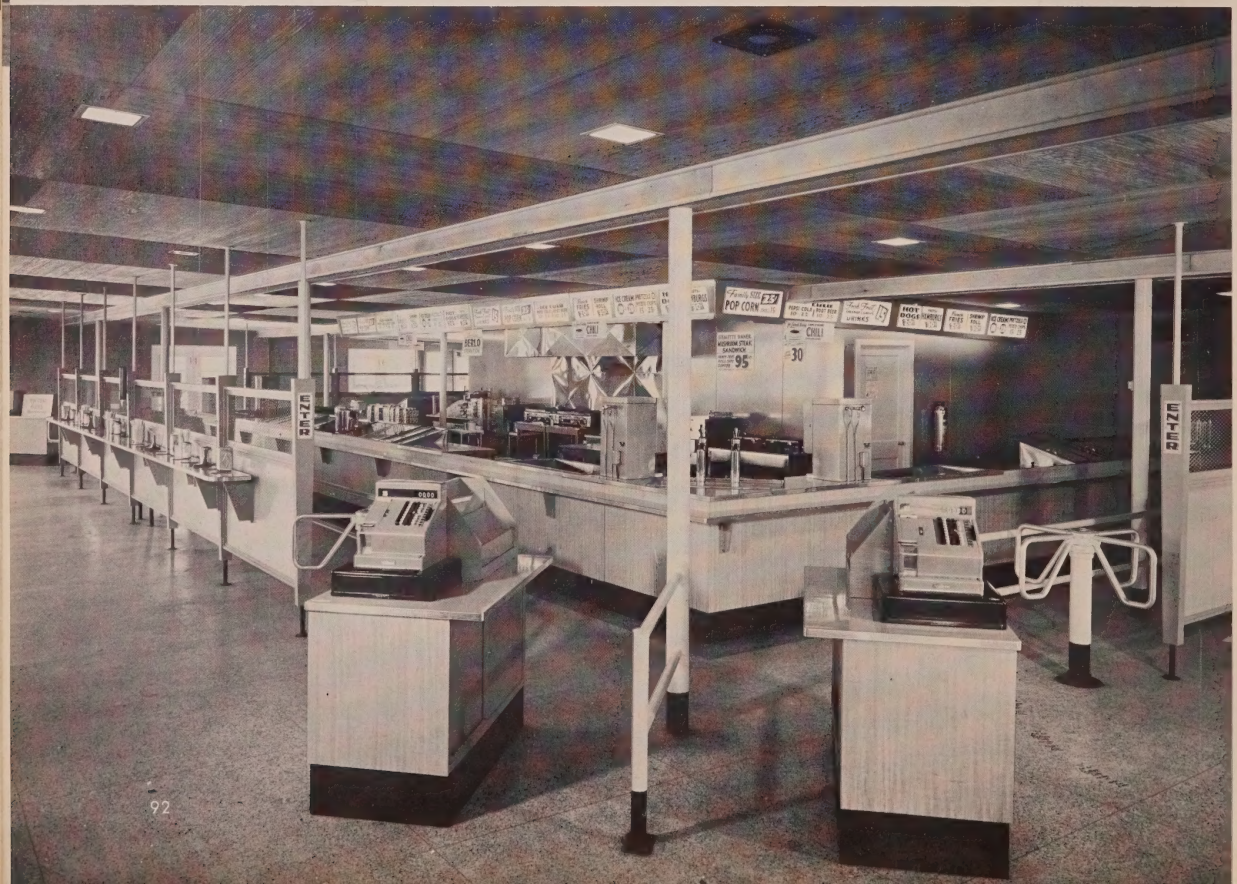
In-Car Speakers: EPRAD.

Lenses: Kollmorgen Optical Corp., Bausch & Lomb Optical Co.

Projection Lamps: Strong Electric Corp.

Projection Machines: Century Projector Corp.
Rectifiers: Strong Electric Corp.
Screen Tower: Selby Industries, Inc.
Sign Letters: Wagner Sign Service, Inc.
Sound: Century Projector Corp.
Vending Machines: Manley, Inc.; Carbonic.

THE FIELD (above) has double ramping and in-car heaters are made available to patrons for winter operation. Seen (below) is the large and fully equipped cafeteria, which has four cashiers to handle the more than 3800 patrons who can be served in an hour, according to the management.



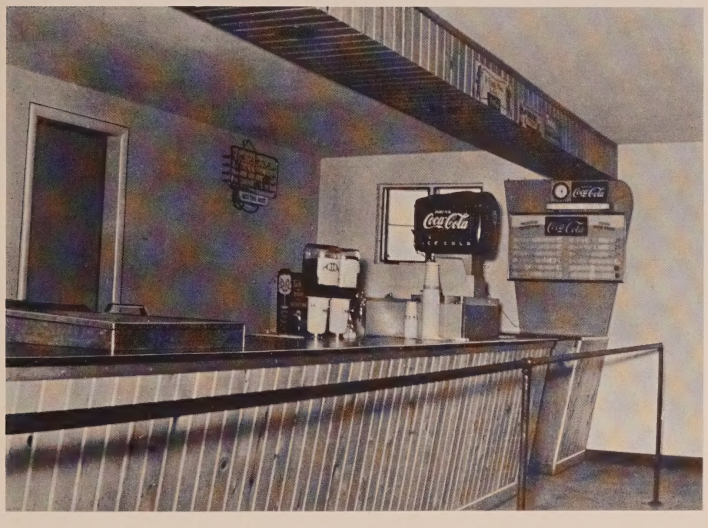
PINEVIEW DRIVE-IN •

Long Pine, Nebr.

Located between two towns, each of which is too small to individually support a drive-in, this operation is a fine example of the small outdoor theatre.

A 78 foot screen tower, with a shingle facing, faces the main parking area. The concession and projection building is made of concrete block, and there is a patio, holding 20 seats, in front.

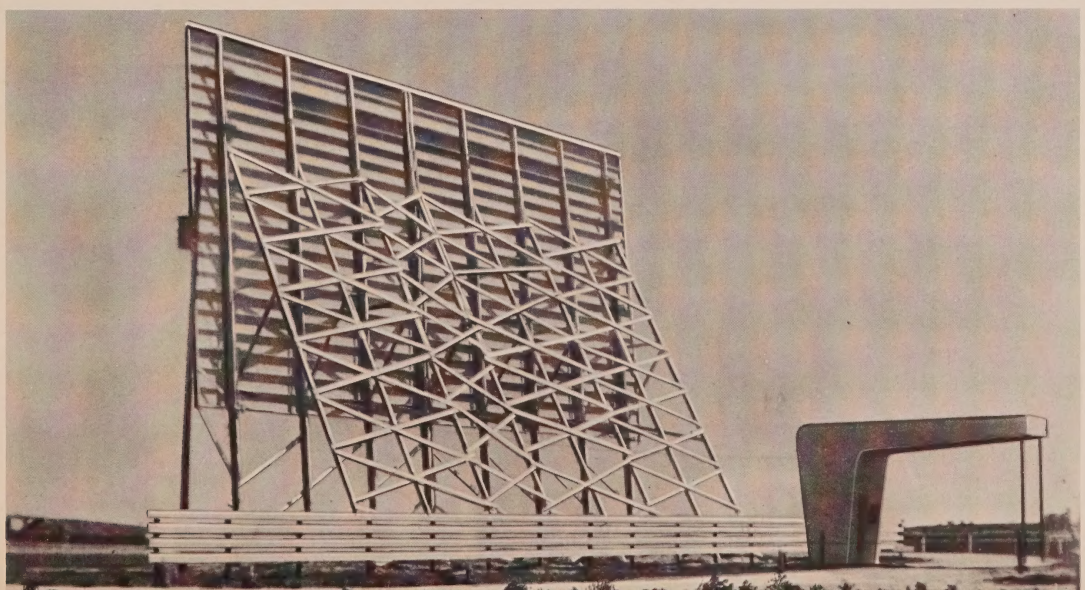
An attractive and modern road marquee helps to guide cars directly to the drive-in boxoffice.



REFERENCE DATA

OWNER & OPERATOR: Rauley W. Connell & Vern P. Lindholm.
CAR CAPACITY: 275.
COST OF BUILDING: $3000.
COST OF EQUIPMENT: $2500.
SIZE OF LOT: 14 acres.

In-Car Speakers: Ballantyne Co.
Lenses: Bausch & Lomb Optical Co.
Projection Lamps: Ballantyne Co.
Projection Machines: Ballantyne Co.
Rectifiers: Garver Electric Co.
Sound: Ballantyne Co.
Vending Machines: Cretors.



ANDALUSIA DRIVE-IN •

Andalusia, Pa.

Situated on a 10 acre tract, this 700 car drive-in draws most of its patrons from Philadelphia and its surrounding communities.

The concession stand and projection booth are located in the center of the field, and are easily accessible from all speaker locations. The snack bar, rest rooms, booth, and workshop are all under the same roof.

The 60 by 101 foot screen tower is mounted on concrete foundations, and steel supporting construction. The screen itself is made of marine plywood panels on a wood background.

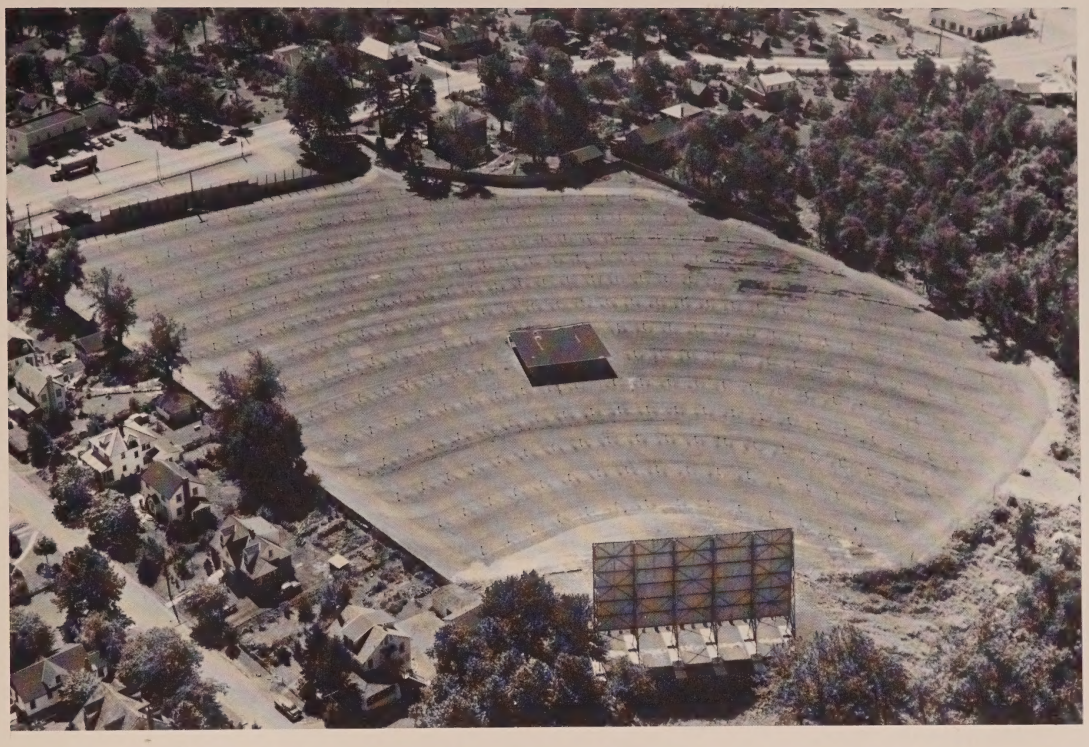
The drive-in field has been designed so that all speaker posts give a clear and unimpeded view of the screen, and the grading has been done in such a manner that all rain water drains off into a nearby creek.

The large sign at the outer entrance is visible to north and southbound traffic, and helps to guide patrons to the attractive ticket booth, which is able to handle two lanes at a time.

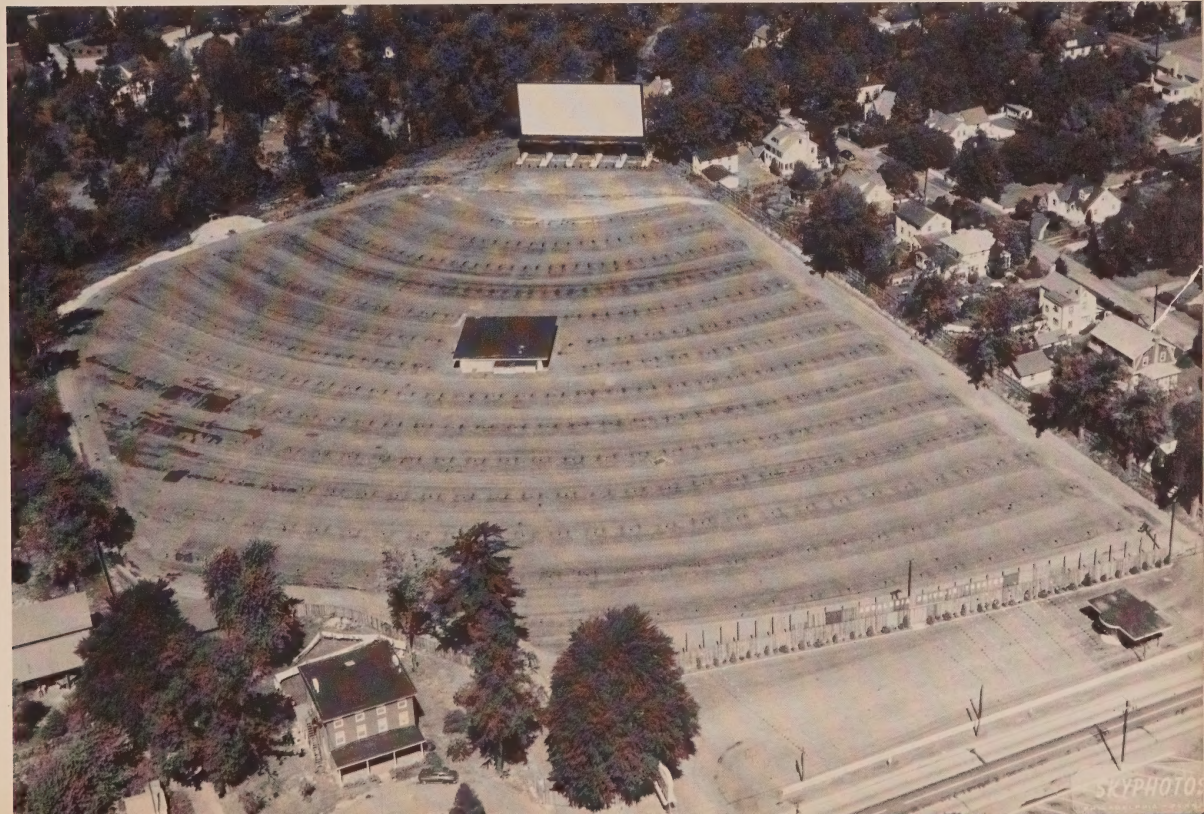
REFERENCE DATA

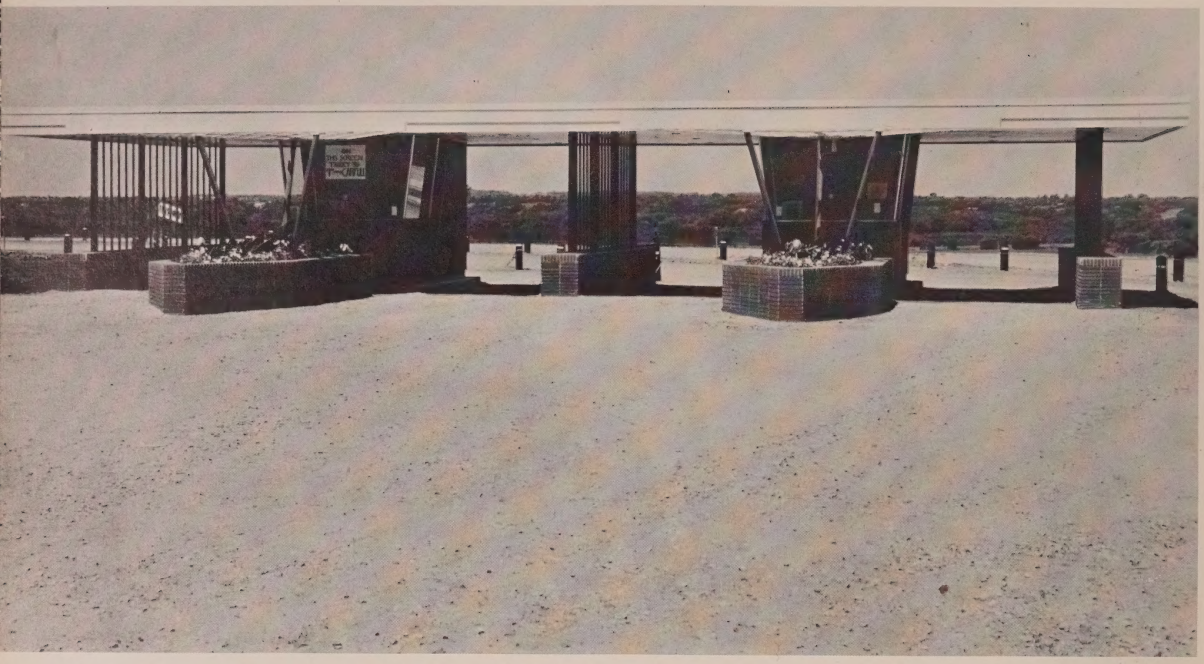
OWNER & OPERATOR: Andalusia Drive-In Theatre, Inc.
DESIGNER: John R. May.
CAR CAPACITY: 700.
COST OF CONSTRUCTION: $200,000.
SIZE OF LOT: 10 acres.

In-Car Speakers: International Projector Corp.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: National Excelite.
Projection Machines: International Projector Corp., Simplex X-L.
Rectifiers: McColpin-Christie Corp. Ltd.
Sign: Wagner Sign Service, Inc.
Sign Letters: Wagner Sign Service, Inc.
Sound: International Projector Corp.
Supply Dealer: National Theatre Supply.
Ticket Machine: General Register Corp.



THESE TWO views of the drive-in (above and below) taken from the air, help to show the sturdily constructed wide screen tower, and the general layout of the theatre. The building in the center of the field houses the snack bar, projection booth, rest rooms and workshops.





LUCKY TWIN DRIVE-IN •

Minneapolis, Minn.

With its 2,000 car capacity marking it as one of the largest outdoor theatres in the country, this twin drive-in is also one of the few to be equipped with dual speakers in order to reproduce stereophonic sound. It was constructed at a cost of over half a million dollars.

The twin screen towers are curved, and each shows a picture image 128 feet wide by 50 feet high. Separate projection booths are provided for each screen, and this permits a 330 foot throw to each.

Constructed on a huge 74 acre site, the Lucky Twin Drive-In is located so that it can serve the Minneapolis and St. Paul area.

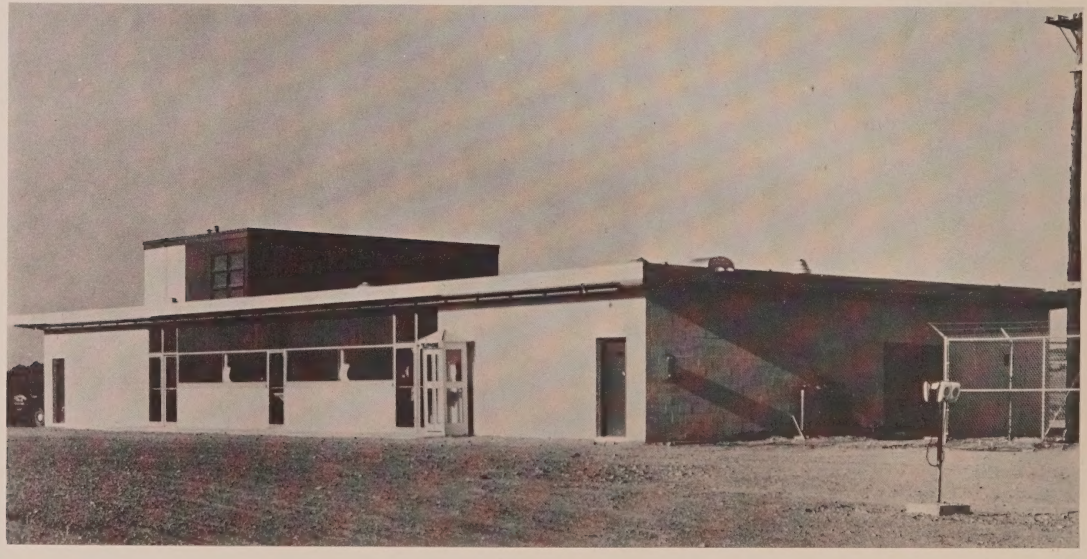
The smart looking boxoffices have been situated so that four lanes of cars can be served at the same time.

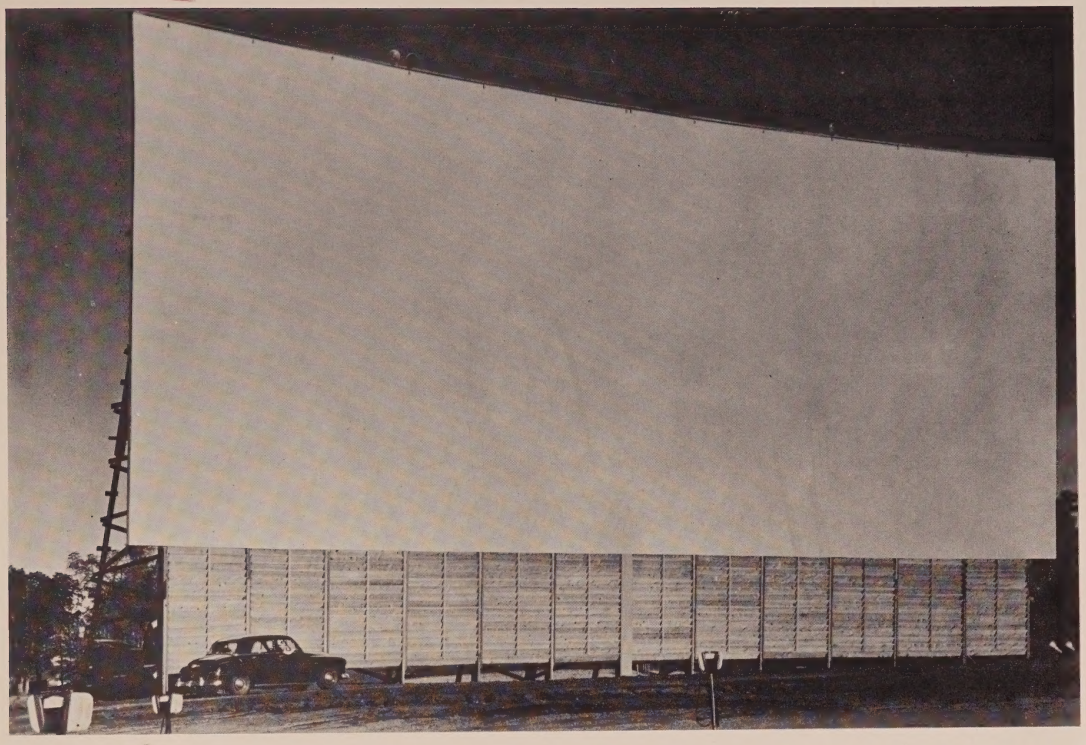
In order to serve the 2000 car capacity, a 50 by 100 foot concession stand has been installed with the equipment necessary to give efficient service.

REFERENCE DATA

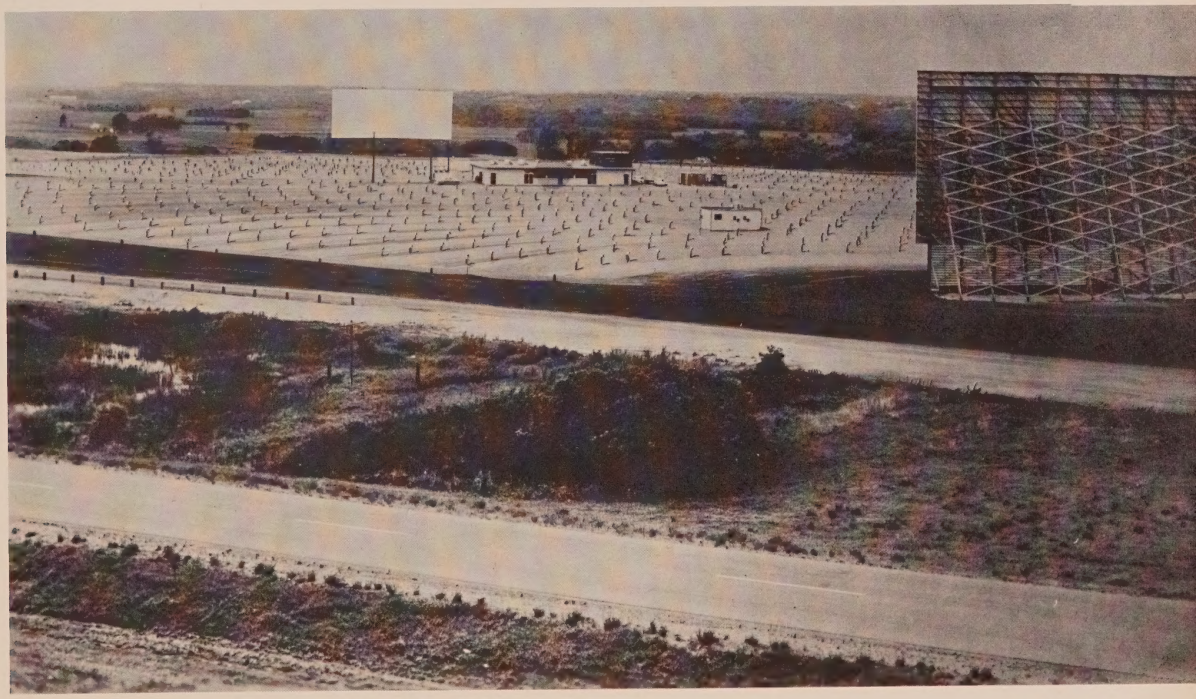
OWNER & OPERATOR: A. L. Aved.
CAR CAPACITY: 2000.
SIZE OF LOT: 74 acres.

Film Cabinets: Goldberg Bros.
Generators: Ballantyne Co.
In-Car Speakers: Ballantyne Co.
Projection Lamps: Strong Electric Corp.
Projection Machines: Ballantyne Co.
Sound: Ballantyne Co.
Supply Dealer: Ballantyne Co.





THIS drive-in can hold 2000 cars. There are two identical screens, each of which shows a picture 128 by 50 feet. Separate projection booths have been provided. The theatre is also equipped for four-channel stereophonic sound. Patrons come from the Minneapolis and St. Paul areas.



CORAL WAY DRIVE-IN •

Miami, Fla.

Located in one of the most famous resort cities in the world, this 600 car drive-in is an attractive, well laid out operation.

The roadside marquee is simple, but very modern in appearance. In keeping with the location, bright colors are used extensively throughout the theatre. Flamingo pink and yellow are used on the front. The concession building interior is canary yellow, and the ladies rest room is pink.

An interesting feature in the concession area is the shadow box menu cards with brightly colored decals on plastic with fluorescent lighting.

REFERENCE DATA

OWNER & OPERATOR: Wometco Theatres.
ARCHITECT: Herbert Mathes.
CAR CAPACITY: 600.
SIZE OF LOT: 12 acres.

In-Car Speakers: Bevelite Corp.; RCA.
Lenses: Bausch & Lomb Optical Co., Radiant Mfg. Co.
Projection Lamps: C. S. Ashcraft Mfg. Co.
Projection Machines: Century Projector Corp.
Rectifiers: Kneisley Electric Co.
Sign Letters: Wagner Sign Service, Inc.
Sound: Century Projector Corp.
Spray Machine: Dyna-Fog.
Supply Dealer: Joe Hornstein, Inc.

THE Coral Way Drive-In has a 600-car capacity and is able to offer fine films and service.

BEL-AIR DRIVE-IN •

Saginaw, Mich.

Excellently located, being only two miles from the center of town, this is an extremely attractive and well equipped drive-in theatre.

A very adequate 14 acres have been used to provide room for the 900 car capacity, and the other facilities which have been installed.

Passersby are attracted by the free-standing letters on top of the tower spelling out the name of the theatre. They are eight feet high and have double neon in the channels. The front of the tower is floodlighted with colored lights.

A good deal of attention has been given to the concession area. The bar is of colored Formica, and there are three completely equipped serving units to serve patrons quickly.

REFERENCE DATA

OWNER & OPERATOR: Twilite Theatre Co.
ARCHITECT: Alvin W. Seeley.
CAR CAPACITY: 900.
COST OF BUILDING: $150,000.
COST OF EQUIPMENT: $30,000.
SIZE OF LOT: 14 acres.
In-Car Speakers: RCA.
Lenses: Kollmorgen Optical Corp.
Playground Equipment: American Playground Device Co.
Projection Lamps: C. S. Ashcraft Mfg.
Projection Machines: RCA.
Rectifiers: RCA.
Sound: RCA.
Supply Dealer: Ernie Forbes Theatre Supply Co.

84th & O DRIVE-IN •

Lincoln, Nebr.

Using modern, efficient methods, this drive-in opened for business just 53 days after the first ground was broken.

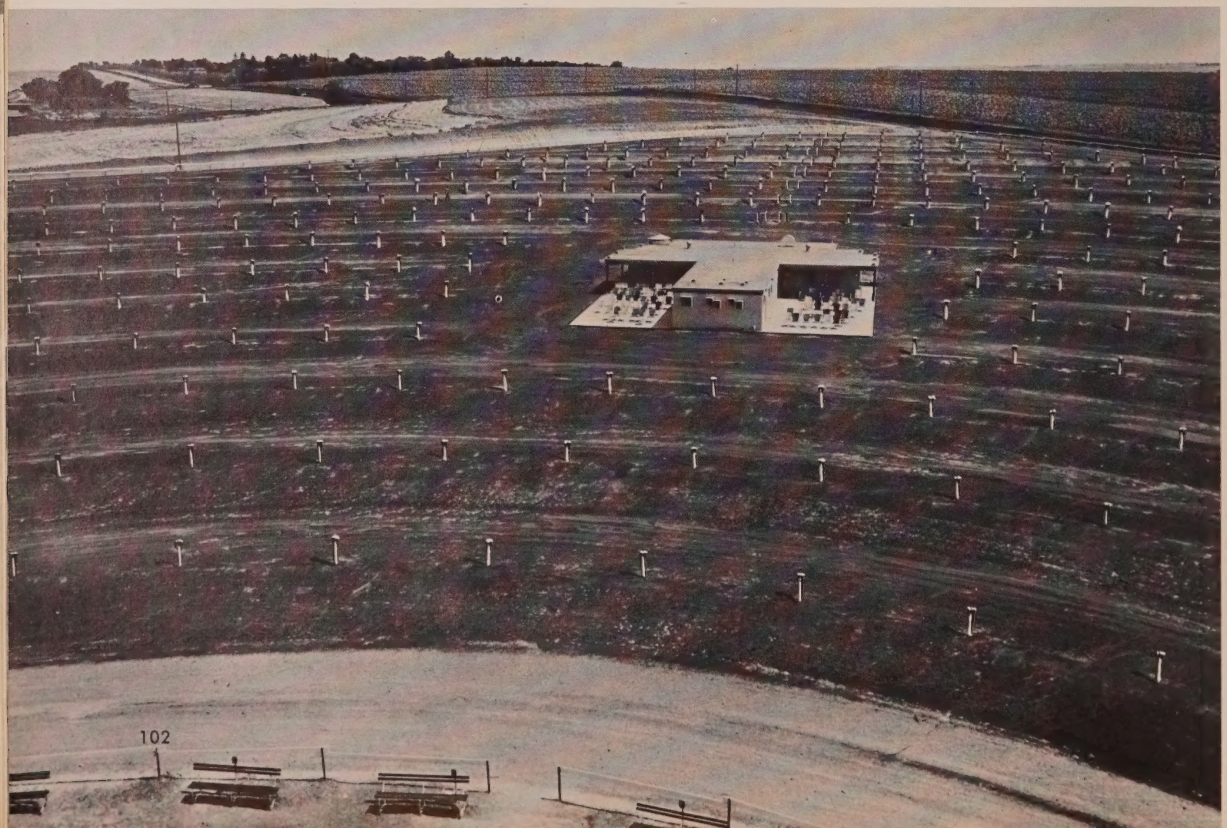
The screen tower is 100 feet wide and rises seven stories from its concrete foundation.

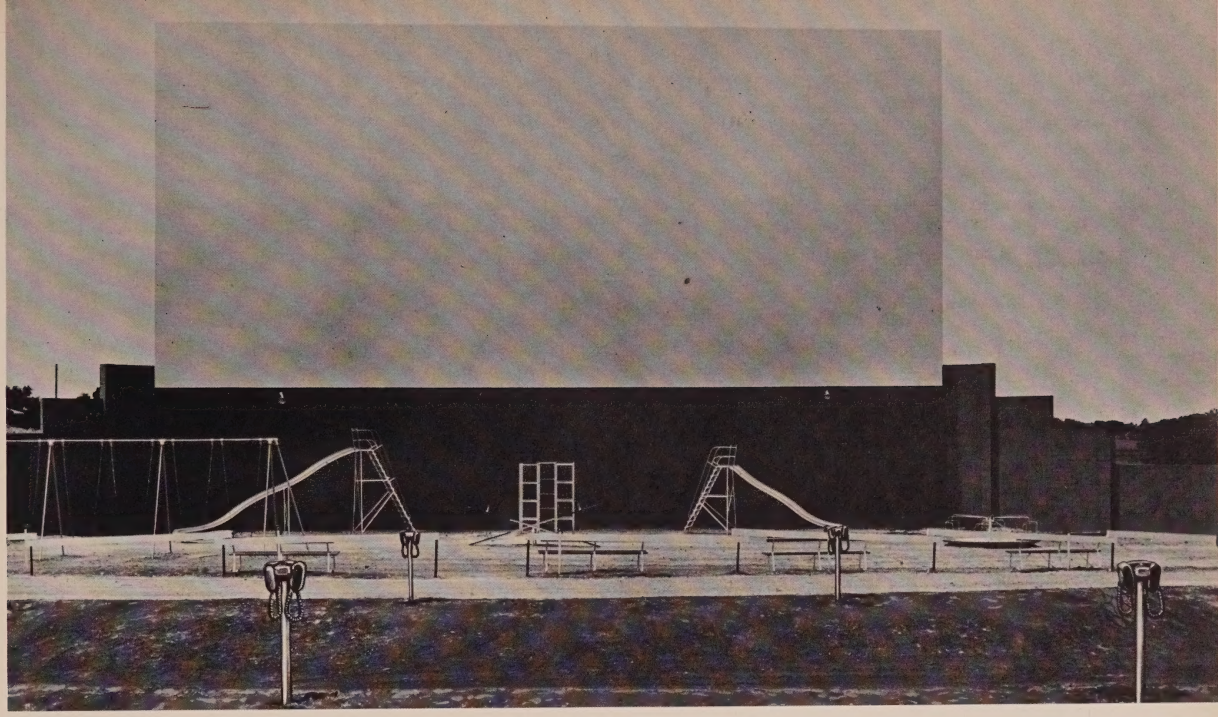
There is room for 750 cars, plus twin garden patios for walk-ins, and those patrons who wish to view the program outside of their autos.

Directly in front of tower is a fully equipped playground.

There is one main entrance and three exits. Three entrance lanes branch out onto the main theatre area. The holdout lanes can take care of 400 cars.

The latest projection and sound equipment has been used, and the theatre can show CinemaScope, VistaVision and other standard film processes.



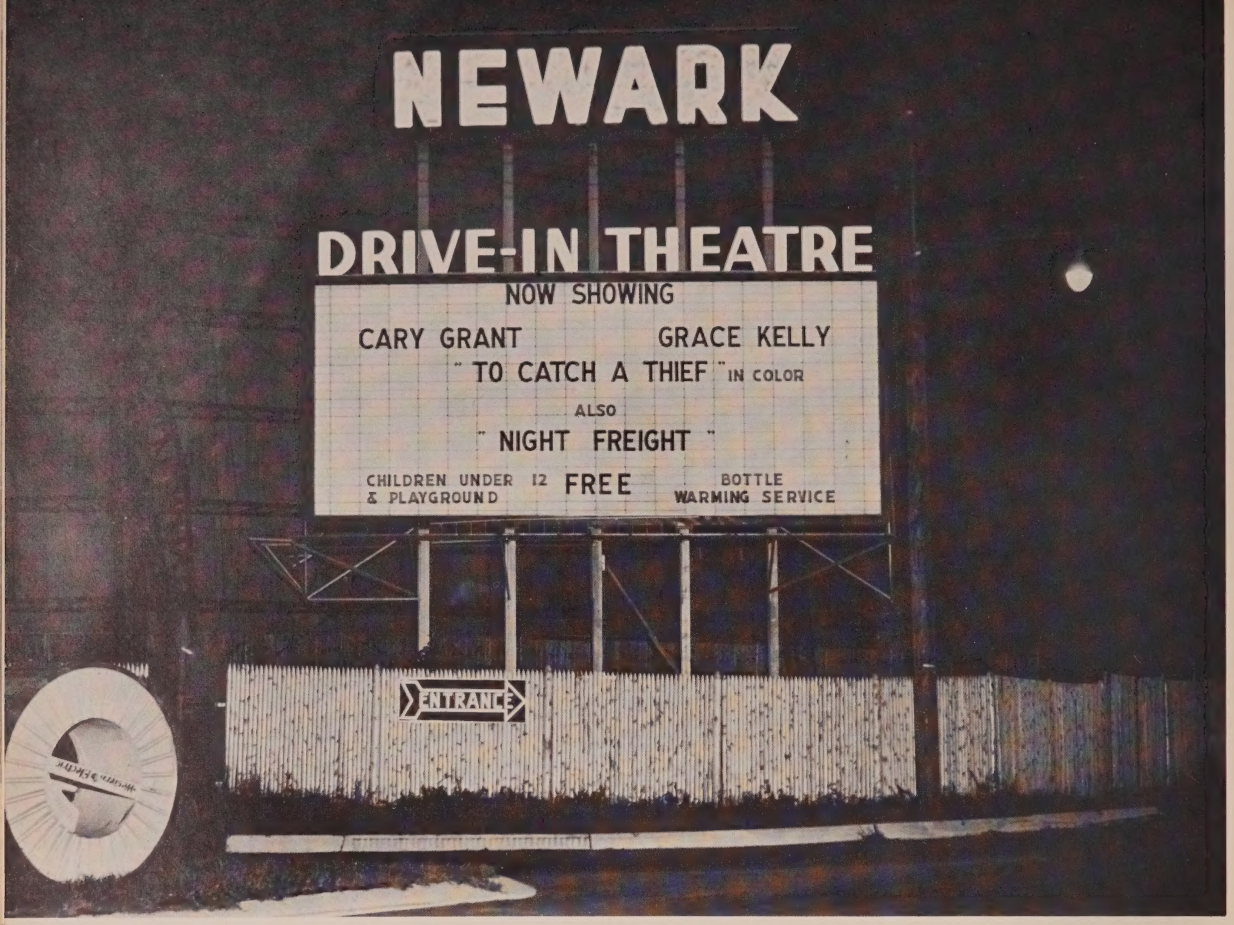


REFERENCE DATA

OWNER & OPERATOR: Herman S. Gould, Russell Brehm and U. S. Senator Roman Hruska.
CAR CAPACITY: 760.

SIZE OF LOT: 30 acres.
In-Car Speakers: Ballantyne Co.
Playground Equipment: American Playground Device Co.
Projection Lamps: Strong Electric Corp.
Projection Machines: Ballantyne Co.
Rectifiers: Ballantyne Co.
Sound: Ballantyne Co.

SPREAD out over a 30-acre site, this drive-in has a 760-car capacity. There is a 100-foot wide tower for wide screen presentations. A well equipped playground is in front of the tower.



NEWARK DRIVE-IN •

Newark, N. J.

With a car capacity of 2,500 cars, this drive-in easily ranks as one of the largest ever constructed.

In keeping with the overall size of the theatre, the concession area is capable of serving over 6,000 people an hour, using the cafeteria system. The patio is furnished with colorful tables and chairs, and can hold 300 patrons.

To enable traffic to move freely, a special walkie-talkie traffic control system is used to direct patrons to an unoccupied speaker position. A unique lighting system, which throws a soft light over the entire area, designed for ideal picture and safety, has been installed.

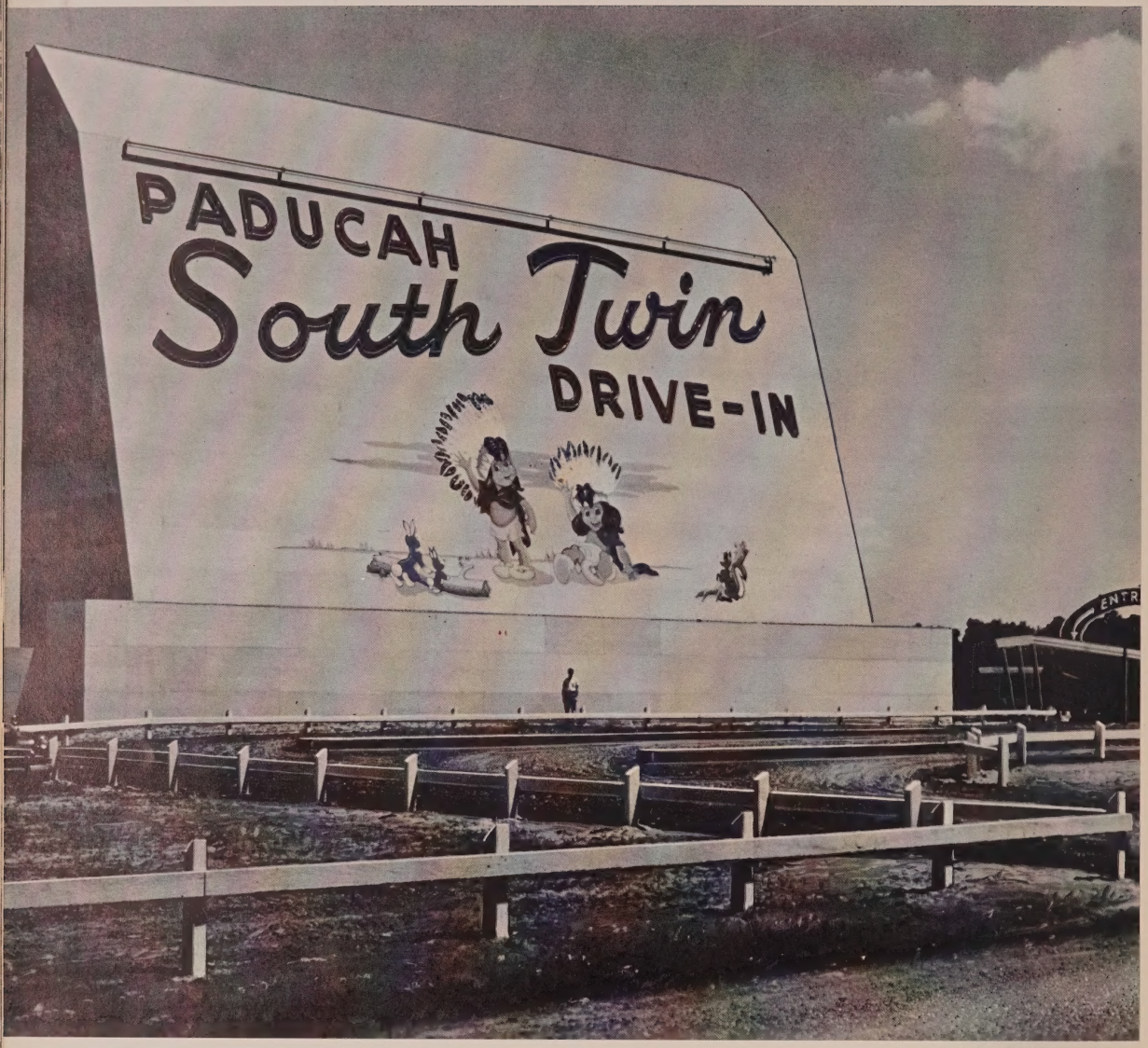
The giant screen has a picture area of 7,500 square feet. The latest projection and sound equipment is used.

REFERENCE DATA

OWNER: Michael & Edward Redstone.
OPERATOR: Michael Redstone Drive-In Theatres.
ARCHITECT: William Reisman.

CAR CAPACITY: 2500.
Generators: Imperial Electric Co.
In-Car Speakers: RCA.
Lenses: Kollmorgen Optical Corp.
Projection Lamps: RCA.

Projection Machines: RCA.
Screen Tower: Signs, Inc.
Sign & Marquee: Signs, Inc.
Sound: RCA.
Supply Dealer: Capitol Motion Picture Supply Corp.



SOUTH TWIN DRIVE-IN •

Paducah, Ky.

One of the finest new outdoor theatres constructed in this area, the South Twin can accommodate 1,000 cars.

There are two screens, with the front screen 100 by 49 feet, while the smaller back screen is 78 by 48 feet. Both screens are built of cement block with steel reinforcing.

Approximately 1,000 cars can be accommodated on the ramps, with 600 using the front screen and 400 the one in the rear. A winding driveway at the entrance holds 100 cars so that highway traffic is not hampered.

A modern cafeteria-style concession is located between the ramps for the two screens. Adjacent to the concession building is the playground, equipped with sliding boards, swings, and merry-go-rounds.

In order to guarantee the sound, two separate amplification systems have been installed, one for each of the screens.

The projection booth, which is located in the concession building, is equipped for the latest systems. Both screens are served from the centrally located projection booth.

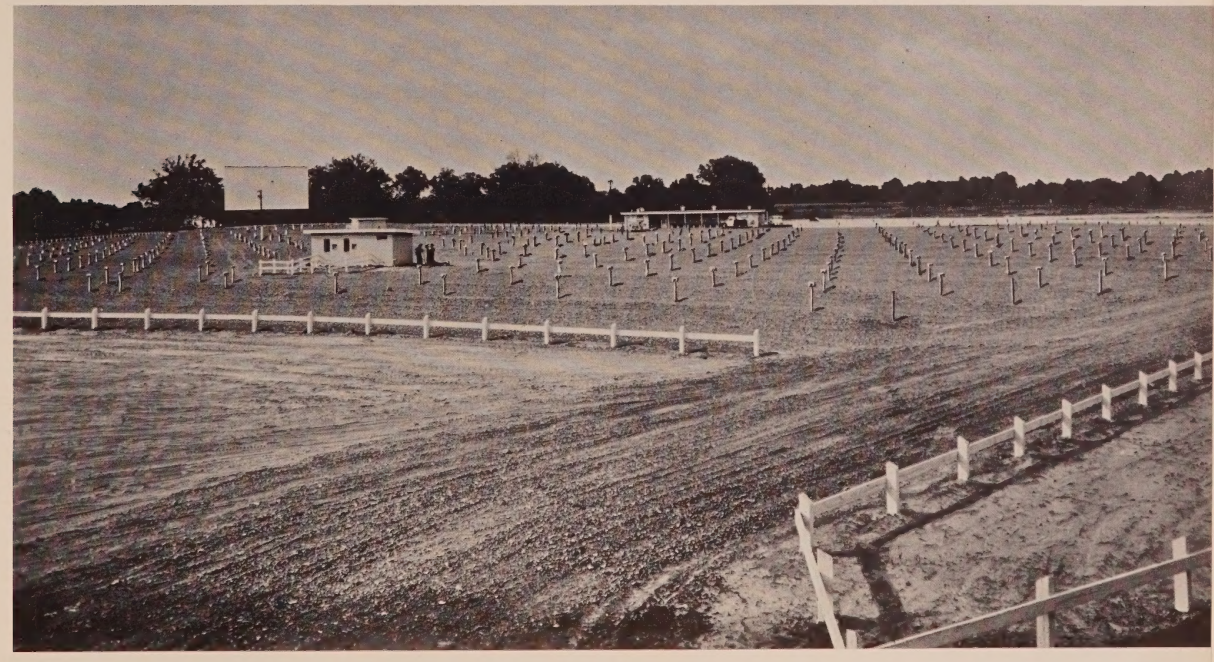
This twin drive-in is located on a large site, as indicated by the fencing which is just under one mile.

REFERENCE DATA

OWNER & OPERATOR: Columbia Amusement Co.
CAR CAPACITY: 1000.

Film Cabinets: Goldberg Bros.
Generators: Ballantyne Co.
In-Car Speakers: Ballantyne Co.
Playground Equipment: Miracle Equipment Co.
Projection Lamps: Strong Electric Corp.
Projection Machines: RCA.
Rewinders: Goldberg Bros.
Sound: Ballantyne Co.

TWO SCREENS are employed at this drive-in. The front screen is 100 feet wide, 49 feet high. The back screen is 78 by 48 feet. The total capacity of this twin drive-ins is 1000 cars, with 600 for one screen, 400 for the other. The centrally located projection booth serves the two screens.



JOLLY ROGER DRIVE-IN •

Detroit, Mich.

This fine looking 1,500 car drive-in was constructed at a cost of more than half a million dollars.

The curved screen tower measures 122 by 82 feet. The projection booth is 540 feet from the tower, thus making it one of the longest projection throws in the country.

The exterior of the tower is entirely covered by transite which gives it a marble stone effect. The entrance and exit canopies are attached to the tower.

Two modernistically designed boxoffices, each with its own temperature control heating panel, are located below the 82 foot entrance canopy. These boxoffices are strategically placed to admit six lanes of traffic. The exit canopy is 70 feet wide and permits quick movement of traffic.

REFERENCE DATA

OWNER & OPERATOR: Nicholas George Theatres, Inc.
COST OF BUILDING & EQUIPMENT: $500,000.
CAR CAPACITY: 1500.
In-Car Speakers: EPRAD.
Lenses: Kollmorgen Optical Corp., Bausch & Lomb Optical Co.
Projection Lamps: Strong Electric Corp.
Projection Machines: Century Projector.
Rectifiers: Strong Electric Corp.
Sign Letters: Wagner Sign Service, Inc.
Sound: Century Projector Corp.
Supply Dealer: Theatre Equipment Co.

DRIVE-IN THEATRES

1955-56

Drive-In Theatres of the 1955 Season

Breakdown by Territories and States of Drive-In Locations, Their Capacities and Their Ownerships

In recent years it has become practically an automatic reflex to bemoan the fate of indoor theatres and to paint glowing pictures of the ever growing number of drive-ins. For the most part this optimistic viewpoint, in reference to the growth of outdoor theatres, is wholly justified. A look at the yearly total number of drive-ins over a seven year period offers some convincing evidence. In 1949 there were 748 drive-ins in operation in the United States. In 1950 the figure rose to 1,753; in 1951 there were 2,703 drive-ins operating; in 1952 the number again rose to 3,166, and in 1953 there were 3,841 drive-ins open or under construction. In every year the total increased appreciably.

However, the results of this fifth exhaustive, and up-to-date listing of drive-in theatres, which is an exclusive THEATRE CATALOG feature, offers some revealing **facts** that do not quite coincide with most **estimates** of the current number of drive-ins in operation.

As in the previous four listings, every effort has been made to check the accuracy of the compilation. All data has been compared with the drive-in lists of several major film distributing companies, and all discrepancies were marked for clarification and correction. A first class mailing was made to the theatre owner of each of the drive-ins listed so that any undeliverable postal address might be checked and either reconciled or deleted. The survey resulting is not only an accurate operational tool for equipment dealers and film distributors, but also provides a clear picture of the current status of drive-ins, nationally and in individual states and film territories.

Exhibitors, distributors, equipment manufacturers, and the trade press have all placed the number of outdoor theatres in the United States at 5,000 or better. However, the results of this new listing show that there are actually 4,340 drive-ins presently operating or under construction. The last previous complete listing, which was presented in the 1953-54 Edition, showed that there were 3,841 drive-ins. Therefore, the increase in the two year period is 499.

This increase of 499 new drive-ins over a two year period compares with a rise of 675 drive-ins in 1953-54, and 950 in 1951. Actually, however, the increase is greater since 193 open air theatres that were listed in 1953-54 are no longer in operation. Therefore, there is a true increase of 692 new drive-ins.

The reasons for this apparent slackening of drive-in construction are not difficult to ascertain. In many areas the point of saturation was reached two or even three years ago. As a result, the weaker operations were forced to close because of the severe competition, and the incentive to build new drive-ins was stifled. Another reason is the steadily mounting cost of building a drive-in. With elaborate concession buildings, playground facilities, and other expensive services literally a "must," and with the expenses involved in installing wide screen equipment, (the tower alone can cost $25,000 or more) building a drive-in is big business requiring large amounts of capital. Still another reason for this slowing down of new construction is the shortage of films, and the steadily worsening relations between exhibition and distribution.

Although the number of new outdoor theatres is not rising as rapidly as in previous years, the current situation has brought about the reversal of a condition which had held true for the past five years — the size of drive-ins. Since 1950 there has been a steady decline in the average car capacities. In 1950 the average car capacity was 447; in 1951, 435; in 1952, 428; in 1953, 422. This year's listing shows the average car capacity to be 424, marking the first increase in this figure since 1949.

The explanation for this increase is exactly the same as that for the decrease in the total number of drive-ins. With increasing competition a new drive-in must be bigger and better than existing ones if it is to survive. Drive-in patrons today demand many services and facilities, and only the larger theatres can meet these demands. In addition, the 1,000 car or better drive-in has a higher gross potential, and therefore is in a stronger position to bid for available films.

DRIVE-IN THEATRES AND THEIR CAR CAPACITIES BY FILM DISTRIBUTION TERRITORIES

Film Distribution Territory:	*Operating — 1955 Season No. of Theatres*	*Total Cars*	*Average Cars*
Albany, N. Y.	55	23,035	419
Atlanta, Ga.	322	109,113	339
Boston, Mass.	157*(9*)*	78,685	474
Buffalo, N. Y.	52	30,173	580
Charlotte, N. C.	381	100,949	265
Chicago, Ill.	68	46,499	684
Cincinnati, O.	177	76,196	430
Cleveland, O.	101	49,378	489
Dallas, Tex.	465*(1*)*	195,880	420
Denver, Colo.	137*(1*)*	58,392	423
Des Moines, Ia.	52	22,109	425
Detroit, Mich.	99*(3*)*	56,709	556
Indianapolis, Ind.	143	64,999	455
Jacksonville, Fla.	164	62,316	380
Kansas City, Mo.	181*(2*)*	70,172	383
Los Angeles, Calif.	128*(3*)*	91,446	698
Memphis, Tenn.	137*(1*)*	49,090	356
Milwaukee, Wisc.	60	28,757	479
Minneapolis, Minn.	106*(3*)*	41,868	384
New Haven, Conn.	38*(6*)*	26,621	605
New Orleans, La.	156	63,821	409
New York, N. Y.	44	32,055	729
Oklahoma City, Okla.	142*(2*)*	49,060	341
Omaha, Neb.	48	19,723	411
Philadelphia, Pa.	116*(3*)*	63,308	532
Pittsburgh, Pa.	135*(1*)*	57,865	425
Portland, Ore.	69	30,489	442
St. Louis, Mo.	135*(1*)*	56,391	415
Salt Lake City, Utah	109	40,017	367
San Francisco, Cal.	105*(2*)*	57,165	534
Seattle, Wash.	67	28,249	422
Washington, D. C.	191*(4*)*	60,883	312
Total	4,340*(42*)*	1,841,413	424

(*) Wherever car capacities could not be ascertained, the theatres themselves were included in the totals, and the number unverified was signalled in the accompanying parenthesis. For each such theatre, the average car capacity of the known theatres in the particular state was then added to the gross car capacities of the territory, in order to project the most probable totals. Theatres so treated represent less than 2% of the grand total.

Analysis by Film Territory

The only territory to show a decrease in the number of drive-ins is Atlanta, which had the greatest number of drive-ins in the 1953-54 season. However, this is easily explained by the fact that the territory of Jacksonville, which was recently created, took 114 drive-ins out of the Atlanta territory. Despite this substantial loss, Atlanta still ranks third, with a total of 322 drive-ins. Returning to the number one position is Dallas, with a total of 465 outdoor theatres, representing an increase of 50 since the last listing in 1954. Pittsburgh and Oklahoma City, which had ranked eighth and tenth, dropped out of the first 10, being replaced by the newly created Jacksonville territory, which ranks seventh, and by Indianapolis, whose 143 drive-ins placed it in tenth position.

Film distributor territories **with the largest number of drive-in theatres** are as follows:

Territory	Theatres
1. Dallas	465
2. Charlotte	381
3. Atlanta	322
4. Washington, D. C.	191
5. Kansas City	181
6. Cincinnati	177
7. Jacksonville	164
8. Boston	157
9. New Orleans	156
10. Indianapolis	143

As can be noted the only territory to have more than 400 drive-ins is Dallas. A fact which has been true for a number of years continues to make itself evident — areas with the largest number of drive-ins have low average car capacities. For example, Charlotte, which has always been one of the leaders in the number of outdoor theatres, has the lowest average car capacity in the country with 265. Seven of the top 10 territories have average car capacities below the national average of 424.

The territories with the highest average size drive-ins, as would be expected, are located in the heavily populated urban areas of the nation. It is significant that not one territory which is listed as having the largest number of drive-ins appears on the list of the territories with the highest average car capacity.

Territories **with the highest average drive-in car capacity** are as follows:

Territory	Average Size
1. New York	729
2. Los Angeles	698
3. Chicago	684
4. New Haven	605
5. Buffalo	580
6. Detroit	556
7. San Francisco	534
8. Philadelphia	532
9. Cleveland	489
10. Milwaukee	479

There was quite a bit of action among the top four with New York going from third place to first; Los Angeles moving up from fourth to second place; Chicago dropping from the number one position to third, and New Haven ranking fourth, as compared to its second place position of two years ago.

The only newcomer to the list is Cleveland, which ranks ninth with an average car capacity of 489, replacing Boston, whose car capacity average dropped from 524 to 474, despite an increase of 29 new drive-ins.

DRIVE-IN THEATRES AND THEIR CAR CAPACITIES BY STATES

NOTE: Only operating theatres, or those due to operate during the 1955 Season, are included in these totals.

States:	*No. of Theatres*	*Total Cars*	*Average*
Alabama	104	35,433	340
Arizona	39	19,995	512
Arkansas	75*(1*)*	28,461	379
California	183*(3*)*	122,092	667
Colorado	61*(1*)*	28,685	470
Connecticut	39*(6*)*	27,036	693
Delaware	9	4,779	531
Florida	172	66,425	386
Georgia	144	47,918	332
Idaho	38	13,142	345
Illinois	118	66,710	565
Indiana	119	59,028	496
Iowa	64	26,908	420
Kansas	112	44,992	401
Kentucky	116*(1*)*	42,600	367
Louisiana	82	36,402	443
Maine	37*(1*)*	16,173	437
Maryland	33	14,906	451
Massachusetts	66*(2*)*	39,165	593
Michigan	110*(4*)*	60,837	553
Minnesota	59*(2*)*	23,110	391
Mississippi	63	20,950	332
Missouri	135*(2*)*	51,105	378
Montana	36	12,406	344
Nebraska	45	17,740	394
Nevada	11*(1*)*	5,730	520
New Hampshire	22*(2*)*	9,184	417
New Jersey	28*(1*)*	19,907	710
New Mexico	56	22,721	405
New York	129	70,020	542
North Carolina	258	70,160	271
North Dakota	18*(1*)*	6,739	374
Ohio	187	92,160	492
Oklahoma	119*(2*)*	43,482	365
Oregon	66*(1*)*	29,508	447
Pennsylvania	198*(3*)*	100,710	508
Rhode Island	8*(3*)*	4,822	602
South Carolina	124	31,139	251
South Dakota	31	11,913	384
Tennessee	128	44,570	348
Texas	457*(1*)*	191,314	418
Utah	37	15,690	424
Vermont	26*(1*)*	10,144	390
Virginia	143*(3*)*	42,027	293
Washington	62	26,763	431
West Virginia	88	27,472	312
Wisconsin	58	29,090	501
Wyoming	26	8,390	322
Hawaii	1	760	760
Total	4,340*(42*)*	1,841,413	424

(*) Wherever car capacities could not be ascertained, the theatres themselves were included in the totals, and the number unverified was signalled in the accompanying parenthesis. For each such theatre, the average car capacity of the known theatres in the particular state was then added to the gross car capacities of the state, in order to project the most probable totals. Theatres so treated represent less than 2% of the grand total.

Analysis by State

Every state listed among those with the largest number of drive-ins shows an increase. However, other than South Carolina, which had placed ninth in 1954 with 124 drive-ins, being replaced by Missouri with 135 drive-ins, there are no changes worth noting. Texas, with 457, is the overwhelming leader having almost twice as many drive-ins as second place North Carolina.

The states **with the most drive-in theatres** are as follows:

State	Theatres
1. Texas	457
2. North Carolina	258
3. Pennsylvania	198
4. Ohio	187
5. California	183
6. Florida	172
7. Georgia	144
8. Virginia	143
9. Missouri	135
10. New York	129

States **with the fewest drive-in theatres** are as follows:

State	Theatres
1. Rhode Island	8
2. Delaware	9
3. Nevada	11
4. North Dakota	18
5. New Hampshire	22
6. Vermont	26
7. Wyoming	26
8. New Jersey	28
9. South Dakota	31
10. Maryland	33

Here again, there are no changes of any major significance. It is interesting to see, however, that Rhode Island, which now ranks as the state with the fewest drive-ins, was in second place in 1954. Delaware went from third to second place, and Nevada from first to third position.

CONCLUSION

On the following pages are detailed listings of individual theatres, from which the above statistics were drawn. While the Editor has every reason to believe that the survey is as complete and accurate as is humanly possible to produce, it is possible that a few minor errors and omissions are present. For this reason, plus the fact that the listing is subject to changes by virtue of new ownership, enlarged or reduced capacities, closings, and the addition of new theatres, its use as a mailing list **without first consulting the publishers** for changes and additions is not recommended. Morever, permission to use the survey for a mailing list must first be obtained from the publishers.

A LISTING BY DISTRIBUTION TERRITORIES

NOTE: This 1955 list took several months to prepare, and has resulted from the cross-checking of numerous film distributor and supply dealer lists of their customers, with the resulting compilation being sent out into each of the 32 film distribution territories for field testing to eliminate duplications and inconsistencies. It is believed to be the only true list of such theatres in existence, accurate and complete as possible..

The rural nature and highway locations of such theatres make accurate addressing most difficult. Owners themselves make understandable mistakes regarding the location of township and boro lines, and of the postal routes which dictate their mailing address. Wherever possible, postal routes and post boxes have been listed; and where a particular hamlet has no postal office, communications should be directed to the owner at his address.

Numerals in parentheses behind each listing are the reported car capacities of each.

Where particular theatres are operated by circuits or owners in other than the particular location, or when film is booked by an agent or cooperative buying combine, some effort is directed toward listing the latter's business location or home address.

ALBANY TERRITORY

New York

(NOTE: See also Buffalo and and New York Territories)

Alexandria Bay, N. Y., THOUSAND ISLAND D. I. Exec: Donald Gilson, Bay Th., and Mr. Scalise, 25 Pine St., Canton. (298)

Averill Park, N. Y., HOLLYWOOD D. I., Route 66. Exec: Joseph Fisher, 119 Jefferson St., Troy. (250)

Black River, N. Y., BLACK RIVER D. I. Exec: Sylvan Leff, 951 Western Ave., Albany. (600)

Canton, N. Y., IDEAL D. I. Exec: A. P. Papayanakos, American Th. (500)

Canton, N. Y., SUNSET D. I., 25 Pine St. Exec: D. Gilson, Bay Th., Alexandria Bay. (246)

Chazy, N. Y., BORDER D. I. (Champlain). Exec: William Rennedy, Lyceum Th., Champlain. (350)

Colonie, N. Y., MOHAWK D. I., Schenectady-Albany Rd. Exec: Fabian Ths., 1585 Broadway, New York. (900)

Coxsackie, N. Y., HI-WAY D. I., 2 Miles So. of Coxsackie Traffic Circle. Exec: Mrs. Frieda Klein. (400)

Crown Point, N. Y., SKYLINE D. I. Exec: Lawrence Allen, Allen Bros. and S. Dwore. (300)

East Greenbush, N. Y., AUTO VISION D. I., R s. 20 and 9. Exec: Alan Iselin, P. O. Box 51, Albany. (400)

Gouverneur, N. Y., HI WAY D. I. Exec: James P. Papayanakos, Gralyn Th. (350)

Guilderland, N. Y., CARMEN D. I. Exec: John Morrotta, 248 E. Main, Amsterdam and Ben Coleman. (356)

Guilderland, N. Y., TURNPIKE D. I. (Westmere). Exec: John Gardner, 1970 Western Ave., Albany. (450)

Hudson, N. Y., SUNSET D. I., Route 9. Exec: Frieder and Grossman Ct., 35 Warren St. (450)

Hudson Falls, N. Y., DIX D. I. (Glens Falls), Box 388. Exec: L. S. Wells, Ken Mosher and Moe Bittman, Box 388, Glens Falls. (200)

Hunter, N. Y., MOUNTAIN D. I. Exec: Frieda Klein. (375)

Lake George, N. Y., FORT GEORGE D. I., P. O. Box 244. Exec: Julius Perlmutter, 1044 Broadway, Albany. (460)

Lathams, N. Y., SARATOGA D. I., Saratoga Rd. Exec: Fabian Ths., 1585 Broadway, New York. (482)

Little Falls, N. Y., VALLEY D. I. Exec: Robert Baranoff. (514)

Loch Sheldrake, N. Y., MOUNTAIN D. I. (Liberty.) Exec: Dr. Luther Grant, 12 Chestnut St. and Sid Dwore. (464)

Loudonville, N. Y., CHIEF D. I. (Nelliston). E c: Hallenbeck and Riley. (350)

Lowville, N. Y., VALLEY BROOK D. I., R.D. #2. Exec: Robert Matuszezaka and Sid Dwore. (300)

Malone, N. Y., FRANKLIN D. I., Route 11. Exec: Jerry and Charles DuMont. (355)

Malta, N. Y., MALTA D. I. (Saratoga). Exec: Sarto Smaldone, 511 Broadway, Saratoga. (370)

Messena, N. Y., SUNSET D. I., Route 37. Exec: Donald Gilson, 25 Pine St., Canton. (350)

Menands, N. Y., MENANDS D. I. Exec: Joseph Miller, 55 Peyster, Albany. (475)

North Elba, N. Y., SARA PLACID D. I., P. O. Box 428. Exec: Edward Hoffman and E. Stauter, P. O. Box 428, Saranac Lake. (400)

North Hoosick, N. Y., HATHAWAY'S D. I. Exec: F. Chase Hathaway. (400)

Norwich, N. Y., NORWICH D. I., Cherry St. Exec: Pearlman and Kaufman, Jarvis Th., Binghamton. (500)

Ogdensburg, N. Y., RIVERSIDE D. I., Route 7. Exec: Joseph Andrek. (250)

Oneonta, N. Y., DEL SEGO D. I. Exec: Bert Mitchell, William Warnken, Sr., 37 Maple St. (544)

Palatine Bridge, N. Y., EL RANCHO D. I. Exec: Clifton Hall, Jr. (430)

Plattsburg, N. Y., PLATTSBURG D. I., Morrisonville Rd., Box 203. Exec: B. W. Hobbs, Box 241, and L. Berry. (400)

Plattsburgh, N. Y., STARDUST D. I., 291 Margaret St. Exec: Mrs. Lillian Henry. (365)

Potsdam, N. Y., MOONLIGHT D. I., Route 56. Exec: A. P. Papayanakos, American Th., Canton. (480)

Richmondville, N. Y., COBLESKILL D. I. Exec: Julius Perlmutter, 1044 Broadway, Albany. (300)

Rockhill, N. Y., ROCKHILL D. I. Exec: Harry Lamont, 100 State St., Albany. (600 and 100 Seats)

Rotterdam Junction, N. Y., RIVERVIEW D. I. Exec: Harry Lamont, 100 State St., Albany. (600)

Saratoga, N .Y., SPAR D. I. (Greenfield Center), Route 9K. Exec: Julius Perlmutter, 1044 Broadway, Albany. (450)

Schuyler, N. Y., SCHUYLER D. I. Exec: Louis Goldstein, Box 386, Rome. (550)

South Glens Falls, N. Y., AUST'S OPEN AIR D. I., Route 9. Exec: William H. Aust, RFD #1, Gansevort. (312)

Stillwater, N. Y., HUDSON RIVER D. I. (Schaghticoke), R. D. #2. Exec: Domonick Carelli, 24 Lyman St., Hoosick Falls. (400)

Tupper Lake, N. Y., TUPPER LAKE D. I., P. O. Box 57. Exec: Leon Duchene and Richard D. Hayes, Grand Union Hotel, Faust. (350)

Utica, N. Y., KALLET D. I. (Marcy), Utica-Rome Rd. Exec: S. J. Kallet, Kallet Ths., Oneida. (796)

Utica, N. Y., WGAT D. I. (New Hartford), Kellogg Rd. Exec: Kallet, Kallet Ths., Oneida. (536)

Vails Mills, N. Y., VAILS MILLS D. I. (Amsterdam), Route 30, R. D. #4. Exec: Louis Goldstein, Box 386, Rome. (400)

Voorheesville, N. Y., INDIAN LADDER D. I. Exec: Hallenbeck and Riley, 562 Broadway, Albany. (360)

Watertown, N. Y., NORTHSIDE D. I. (Brownsville). Exec: Dr. P. H. Liebig. (450)

Watertown, N. Y., STAR-LIT D. I., Adams-Watertown Rd., Rt. 11, R.F.D. #3. Exec: Fred Kleemier, 527 Canton St., Ogdensburg. (400)

West Rome, N. Y., WEST ROME D. I. Exec: Louis Goldstein, Box 386, Rome. (400)

West Sand Lake, N. Y., RUSTIC D. I. Exec: William Dorato, 57 Sheridan Ave., Albany. (300)

Whitehall, N. Y., WHITEHALL D. I., 66 Saunders St. Exec: John DiResta, Box 210. (299)

Vermont

(NOTE: See also Boston Territory)

Castleton, Vt., FORT WARREN D. I. Exec: F. Chase Hathaway, N. Hoosick, N. Y. (400)

Manchester, Vt., MANCHESTER D. I. Exec: Gerald James. (450)

North Bennington, Vt., ANTHONY D. I. Exec: J. Alonzo, A. R. Willard and Affiliated Th. Corp., Park Square Bldg., Boston, Mass. (368)

ATLANTA TERRITORY

Alabama

(NOTE: See also Memphis and New Orleans Territories)

Abbeville, Ala., BENNETT D. I. Exec: Ward Bennett, % Walker Th., Fort Gaines, Ga. (200)

Alabama City, Ala., GROVE D. I. (Gadsden). Exec: W J. Hatfield, % Skyway D. I., Oak Ridge, Tenn. (350)

Albertville, Ala., MARSHALL D. I., Box 198. Exec: W. W. Hammond. (300)

Albertville, Ala., SHADY SIDE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (400)

Alexander City, Ala., PINES D. I., % Strand Th. Exec: Mack Jackson. (350)

Aliceville, Ala., 17 D. I., % Palace Th. Exec: R. E. Hook. (200)

Anniston, Ala., BAMA D. I. Exec: J. E. Aaron. (490)

Anniston, Ala., MIDWAY D. I. Exec: H. W. Fulwider. (350)

Athens, Ala., HATFIELD D. I. Exec: Robert Raney. (350)

Auburn, Ala., A AND O D. I. (Opelika). Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (430)

Bessemer, Ala., AUTO MOVIES D. I., P. O. Box 415. Exec: L. C. Worthington. (300)

Bessemer, Ala., BESSEMER D. I., Box 1345. Exec: C. E. Ambrose. (200)

Bessemer, Ala., CARVER OUTDOOR D. I. Exec: A. E. Rook. (420)

Birmingham, Ala., FAIR PARK D. I. Exec: N. H. Waters, Waters Th. Co., 2839 5th Ave. (800)

Birmingham, Ala., ROEBUCK D. I. Exec: N. H. Waters, Waters Th. Co., 2839 5th Ave. (310)

Birmingham (9), Ala., SHADES MT. D. I. Exec: N. H. Waters, Waters Th. Co., 2839 5th Ave. (310)

Birmingham, Ala., STARLITE D. I. Exec: N. H. Waters, Water Th. Co., 2839 5th Ave. (310)

Bridgeport, Ala., SOUTHPORT D. I., Box 127. Exec: Nation and Story Ths. (250)

Brundidge, Ala., TWILITE D. I. Exec: James Howell and Margurite Stith, P. O. Box 436, Atlanta, Ga. (200)

Centre, Ala., 411 D. I. Exec: Glover Johnson, % Cherokee Th. (237)

Clanton, Ala., CLANTON D. I., P. O. Box 222. Exec: J. A. Jackson, and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (416)

Cullman, Ala., 31 D. I., Box 15. Exec: H. P. Smith. (290)

Decatur, Ala., SUNSET D. I., P. O. Box 1157. Exec: Crescent Amuse. Co., 415 Church St., Nashville, Tenn. (400)

Demopolis, Ala., GROVE D. I. Exec: H. D. Webb, % Marengo Th. (300)

Dothan, Ala., BAMA D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (225)

Dothan, Ala., SKYVUE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (400)

Enterprise, Ala., COFFEE COUNTY D. I. (New Brocton). Exec: J. W. Gaylord, Troy D. I., Box 275, Troy. (350)

Enterprise, Ala., M AND O D. I. Exec: Mrs. Luther Murphy and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (200)

Eufaula, Ala., BAMA D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (322)

Fayette, Ala., DIXIELAND D. I. Exec: R. C. Cobb, % Richards Th. (270)

Florence, Ala., JOYLAN D. I. Exec: Dan W. Davis and Exhibitors Serv. Co., Box 2008, Atlanta, Ga. (700)

Florence, Ala., WILSON D. I. Exec: W. W. Hammands, Box 198, Albertville. (300)

Fort Payne, Ala., HAMILTON D. I. Exec: D. M. Hamilton. (350)

Gadsden, Ala., RAINBOW D. I. Exec: Roy Avey, Georgia Th. Co., P. O. Drawer 1713, Atlanta, Ga (310)

Gadsden, Ala., TOWER D. I. (East Gadsden), Anniston Hwy. Exec: W. T. Hatfield, % Skyway D. I. Oak Ridge, Tenn. (422)

Geneva, Ala., STARLIGHT D. I. Exec: Phelon Howell. (325)

Graysville, Ala., THC D.-I. Exec: Glenora Thornton, 528 10th Court, W. Birmingham. (300)

Haleyville, Ala., HAVALA D. I. Exec: R. C. Cobb. (350)

Hartford, Ala., H AND R D. I. Exec: O. A. Robbins and Tom Jones, 1586 Bridlewood Cir., Decatur, Ga. (180)

Hartselle, Ala., RANCH D. I. Exec: Exhibitors Serv. Co., Box 2008, Atlanta, Ga. (500)

Headland, Ala., GOOBER D. I. Exec: Tom Jones, 1586 Bridlewood Circle, Decatur, Ga. (326)

Henagar, Ala., HENAGAR D. I. Exec: Mack Nation and C. V. Story, Box 127, Bridgeport. (225)

Hillsboro, Ala., STARVUE D. I. Exec: Robert Raney. (175)

Huntsville, Ala., PARKWAY D. I. Exec: J. M. Heffelman. (660)

Huntsville, Ala., 231 D. I. Exec: R. Parham. (200)

Hunstville, Ala., WHITESBURG D. I. Exec: Mrs. Ethel Blankenship. (450)

Huntsville, Ala., WOODY'S D. I. Exec: Rhett Woody and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (330)

Jasper, Ala., MANCHESTER D. I., 1009 Highland Ave., Hwy. 5. Exec: John Miller, Dixie Th., Cordova. (225)

Jasper, Ala., 78 D. I. Exec: John Miller, Dixie Th., Cordova. (400)

Lanett, Ala., VALLEY D. I. Exec: Dunn-Riveria Th., West Point, Ga. (400)

Lincoln, Ala., STARLITE D. I. Exec: Joe Watson. (217)

Louisville, Ala., BARBOUR D. I. Exec: F. B. Pierce. (200)

Luverne, Ala., CRENSHAW D. I. Exec: S. C. King. (300)

Montgomery, Ala., EBONY D. I. Exec: J. R. Moffitt. (400)

Montgomery, Ala., FAIRVIEW D. I. Exec: Wilby-Kincey Ths. Ct., P. O. Box 1515, Atlanta, Ga. (1000)

Montgomery, Ala., JET D. I. Exec: Mat and Jimmy Suraci, and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (500)

Montgomery, Ala., MONTGOMERY D. I. Exec: H. P. Rhodes, 2450 Peachtree Rd., Atlanta, Ga. (450)

Oneonta, Ala., SKYVIEW D. I. Exec: L. M. Neely, Neely Ths., Marion. (300)

Opelika, Ala., SKYVUE D. I. Exec: Martin Ths. of Georgia, P. O. Box 391, Columbus, Ga. (206)

Oxford, Ala., SKYWAY D. I. (Anniston). Exec: W. W. Fincher, Chatsworth, Ga. (425)

Ozark, Ala., FAN D. I. Exec: Mrs. W. J. Brackin, Brackin Th. (300)

Pell City, Ala., ST. CLAIR D. I. Exec: James Cagle, % Lyric Th. (200)

Phenix City, Ala., PHENIX D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (400)

Piedmont, Ala., PIEDMONT D. I. Exec: L. H. Howell. (300)

Prattville, Ala., PRATTMONT D. I. Exec: G. R. Coburn, and Tom Jones, 1586 Bridlewood Circle, Decatur, Ga. (400)

Roanoke, Ala., TWILITE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (300)

Russellville, Ala., KING D. I. Exec: A. L. King. (250)

Samson, Ala., ROCKET D. I. Exec: J. R. Pate. (350)

Samson, Ala., TOP D. I. Exec: Mr. and Mrs. Marcus F. Howell. (180)

Scottsboro, Ala., TAWASENTHA D. I. Exec: Robert D. Word, Ritz Th. (500)

Selma, Ala., SEL-MONT D. I., Montgomery Hwy. Exec: Wilby-Kincey Ths. Ct., P. O. Box 1515, Atlanta, Ga. (500)

Shawmut, Ala., HI-WAY D. I. Exec: L. J. Duncan, Al-Dun Amuse. Co., West Point, Ga. (410)

Sheffield, Ala., PARKVUE D. I. (Muscle Shoals), Box 29. Exec: T. T. Miller. (400)

Slocum, Ala., G AND M D. I. Exec: C. L. Creel. (200)

Sulligent, Ala., TWIX D. I. Exec: R. C. Cobb. (150)

Sylacauga, Ala., COMET D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (350)

Talladega, Ala., BROADWAY D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (275)

Tallassee, Ala., TALA D. I. (East Tallassee). Exec: Fred T. McLendon, Lilfred Th., Union Springs (400)

Troy, Ala., STARLITE D. I. Exec: James Gaylord, Troy Ths., Inc., Troy. (300)

Tuscaloosa, Ala., SKYLINE D. I. Exec: H. J. Cleveland and Tom Jones, 1586 Bridlewood Circle, Decatur, Ga. (300)

Tuscaloosa, Ala., VARSITY D. I. Exec: Louis Worthington, Best D. I. Ths., Box 415, Bessemer. (400)

Tuskegee, Ala., LINCOLN D. I. Exec: John Moffitt, % Carver Th., 108 N. McDonough St., Montgomery. (400)

Wetumpka, Ala., ENCORE D. I. Exec: W. M. Singleton. (Under Construction)

Florida

(NOTE: See also Jacksonville and New Orleans Territories)

Bonifay, Fla., AL'S D. I. Exec: B. H. Schuessler. (175)

Graceville, Fla., JACKSON D. I. Exec: S. C. King. (150)

Quincy, Fla., HILL D. I. Exec: Nat Williams. (300)

Georgia

(NOTE: See also Jacksonville Territory)

Acworth, Ga., LAKES D. I. Exec: Cecil Hudson. (200)

Albany, Ga., CAPITOL D. I. Exec: J. D. Bush, and Howard Schuessler, Box 532, Atlanta. (193)

Albany, Ga., GEORGIA D. I. Exec: Adolph Gortatowsky, Box 18. (419)

Albany, Ga., SLAPPY D. I. Exec: J. D. Bush, and Howard Schuessler, Box 532, Atlanta. (366)

Americus, Ga., SUNSET D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Athens, Ga., ALPS ROAD D. I. Exec: H. P. Rhodes, 20 Collier Rd., Apt. 5, Atlanta. (300)

Athens, Ga., ATHENS D. I., Atlanta Hwy. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (300)

Athens, Ga., PRINCE AVENUE D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (300)

Atlanta, Ga., BANKHEAD D. I., Bankhead Hwy. S. W. Exec: George Th. Ct., Drawer 1713. (650)

Atlanta, Ga., PEACHTREE D. I. (Chamblee). Exec: Storey Ths., Box 7055, Sta. C. (525)

Atlanta, Ga., PIEDMONT D. I., 2426 Piedmont Rd. N. E. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg. (650)

Atlanta, Ga., STARLITE D. I., 2000 Moreland Ave. S. E. Exec: F. C. Coleman, Eastpoint Amuse. Co., Eastpoint. (900)

Atlanta, Ga., STEWART D. I., 2685 Stewart Ave. S. W. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg. (650)

Augusta, Ga., AUGUSTA D. I., P. O. Box 56, Sandbar Ferry Rd. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (315)

Augusta, Ga., BONAIR D. I. Exec: H. Dennis, J. Marcus, ,and Tom Jones, 1586 Bridlewood Circle, Decatur. (675)

Augusta, Ga., BOOKER T D. I. Exec: Marvin Johns. (300)

Augusta, Ga., CLOVER LEAF D. I. Exec: Georgia Ths. Ct., Drawer 1713, Atlanta. (750)

Augusta, Ga., FOREST HILLS D. I. Exec: Donald Boardman. (650)

Augusta, Ga., HILLTOP D. I., P. O. Box 261. Exec: Georgia Ths. Ct., Drawer 1713, Atlanta. (640)

Augusta, Ga., No. 1 D. I. Exec: Russ Saunders, Theatre Booking Serv., Charlotte, N. C. (300)

Augusta, Ga., SKYVIEW D. I., Olive Rd., P. O. Box 1116. Exec: Donald Boardman. (800)

Bainbridge, Ga., AZALEA D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Baxley, Ga., DRIVE IN, Hwy. 341. Exec: Martin and Thompson Ths., Hawkinsville. (275)

Blakely, Ga., PETERS D. I. Exec: Mrs. J. E. Peters. (250)

Brunswick, Ga., STARLIGHT D. I., Glynn Ave., P. O. Box 521. Exec: Ed Diemmer, and Georgia Ths. Ct., Drawer 1713, Atlanta. (400)

Brunswick, Ga., SUNSET D. I., Jacksonville Hwy., Arco, Box 7. Exec: S. O. Jenkins, and Exhibitors Serv. Co., Box 2008, Atlanta. (400)

Cairo, Ga., CAIRO D. I. Exec: J. C. Camp, and Ralph Johnson, Zebulon Th. (342)

Calhoun, Ga., BEL-AIR D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Camilla, Ga., DUNN D. I., Newton Hwy. Exec: R. H. Dunn. (290)

Canton, Ga., HOWELL'S D. I., Rt. 4. Exec: Irene Howell. (300)

Canton, Ga., M AND T D. I. Exec: Martin & Thompson Ths., Hawkinsville. (350)

Carrollton, Ga., DRIVE IN. Exec: J. E. Duncan. (300)

Cartersville, Ga., STARLITE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (305)

Cedartown, Ga., HIWAY 6 D. I. Exec: Joe Sturgis. (300)

Claxton, Ga., CLAXTON D. I. Exec: S. G. Tos, Tos Ths. (175)

Cleveland, Ga., JOYCE-ANN D. I. Exec: John Ash, and Al Rook, Box 1422, Atlanta. (200)

College Park, Ga., ROOSEVELT D. I. (Atlanta), R.F.D. #3, Box 298. Exec: F. C. Coleman, East Point Amuse., East Point. (500)

Colquitt, Ga., PHILLIPS D. I. Exec: A. E. Rook. (200)

Columbus, Ga., COLUMBUS D. I., 1112 45th St. Exec: Wilby-Kincey Ct., Box 1515, Atlanta. (700)

Columbus, Ga., EDGEWOOD D. I. Exec: Martin Ths. of Georgia, Box 391. (676)

Columbus, Ga., JET D. I. (Colored). Exec: Martin Ths. of Georgia, Box 391. (150)

Columbus, Ga., MORRIS ROAD D. I. Exec: Martin Ths. of Georgia, Box 391. (300)

Columbus, Ga., REXVIEW D. I., 1112 45th. Exec: Martin Ths. of Georgia, Box 391. (450)

Columbus, Ga., VICTORY D. I., P. O. Box 1305. Exec: H. P. Rhodes, 20 Collier Rd., Atlanta, and I. Shields. (300)

Commerce, Ga., COMMERCE D. I. Exec: Exhibitors Serv. Co., Box 2008, Atlanta. (200)

Commerce ,Ga., SHERYL D. I. Exec: Marguerite Stith. (200)

Conyers, Ga., MOONLITE D. I. Exec: Exhibitors Serv. Co., Box 2008, Atlanta. (250)

Cordele, Ga., DRIVE IN, P. O. Box 143. Exec: Earl Murray. (145)

Cornelia, Ga., CORNELIA D. I. Exec: Gordon Stonecypher. (192)

Covington, Ga., HUB D. I., Mansfield Hwy. Exec: Mrs. M. Osman. (325)

Dalton, Ga., CHEROKEE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (440)

Decatur, Ga., SCOTT D. I., Scott Blvd. and Lawrence Rd. Exec: Fred Story, Box 7055, Sta. C, Atlanta. (535)

Donaldsonville, Ga., PALM D. I. Exec: Ellison Dunn. (250)

Douglas, Ga., SKYVUE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (150)

Dublin, Ga., DUBLIN D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (250)

Dublin, Ga., ROCKDALE D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (375)

Eastman, Ga., EASTMAN D. I. Exec: Martin & Thompson Ths., Hawkinsville. (250)

Elberton, Ga., ELBERTON D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (500)

Fayetteville, Ga., HIGHWAY 85 D. I. Exec: Oscar E. Kilgore. (200)

Fitzgerald, Ga., FITZGERALD D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (150)

Fitzgerald, Ga., SKYWAY D. I. Exec: Mrs. Margaret Brown. (200)

Forest Park, Ga., FOREST PARK D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (350)

Forsyth, Ga., MIDWAY D. I. Exec: Renfro Watson. (200)

Fort Valley, Ga., COLLEGE D. I. Exec: Greer Grace. (200)

Fort Valley, Ga., No. 7 D. I. Exec: Martin & Thompson Ths., Hawkinsville. (200)

Gainesville, Ga., SKYVIEW D. I., Hwy. 19, P. O. Box 142. Exec: John Thompson. (406)

Glennville Ga., GLENVUE D. I. Exec: Powell Amuse. Co., Vidalia. (305)

Greensboro, Ga., GREENPOINT D. I. Exec: W. R. Boswell. (400)

Griffin, Ga., IRIS D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Hartwell, Ga., JOY D. I. Exec: W. T. Yarborough. (250)

Hawkinsville, Ga., M AND T D. I. Exec: Martin & Thompson Ths., Columbus. (280)

Hinesville, Ga., STEWART D. I. Exec: Pete Brice, Pal Amuse. Co., Vidalia. (407)

Jackson, Ga., JACKSON D. I. Exec: W. E. Blue. (125)

Jessup, Ga., FAMILY D. I. Exec: W. P. Riggins. (300)

Lafayette, Ga., BLUE SKY D. I. Exec: J. P. Edge. (400)

LaGrange, Ga., LaGRANGE D. I., Hwy. 29. Exec: O. C. Lam, Lam Amuse., Rome. (500)

Lawrenceville, Ga., LAWRENCEVILLE D. I. Exec: Tom Jones, 1586 Bridlewood Circle, Decatur. (250)

Lithia Springs, Ga., LITHIA D. I. Exec: Georgia Ths. Ct., Drawer 1713, Atlanta. (225)

Lithonia, Ga., HIGHWAY 12 D. I. Exec: Storey Th. Co., Box 7055, Sta. C., Atlanta. (400)

Louisville, Ga., REBEL D. I. Exec: Pete Brice, Pal Amuse. Co., Vidalia. (300)

Macon, Ga., DIXIE D. I., 2320 Old Jefferson Rd., P. O. Box 397. Exec: Harris Robinson, Dixie Drive-In Ths. Ct., Walton Bldg., Atlanta. (327)

Macon, Ga., 41 HIWAY D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (700)

Macon, Ga., HOUSTON D. I. Exec: Russ Saunders. (300)

Macon, Ga., MOTOR VUE D. I. Exec: Tom Lucy, Exhibitors Serv. Co., Walton Bldg., Atlanta. (275)

Macon, Ga., STARLITE D. I., Old Columbus Rd. Exec: A. L. Rook, Box 1422, Atlanta. (300)

Marietta, Ga., FAIR OAKS D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (425)

Marietta, Ga., MARTIN D. I. Exec: Martin Ths. of Gerogia, Box 391, Columbus. (425)

McCaysville, Ga., TWIN CITY D. I. Exec: J. W. Baird, Newport Amuse. Co., Newport, Tenn. (350)

McRae, Ga., McRAE D. I., P. O. Box 126. Exec Martin & Thompson Ths., Hawkinsville. (300)

Metter, Ga., CANDLER D. I., Metter-Statesboro Hwy. Exec: T. Karrah, Dixie Amuse. Co., Swainsboro (300)

Metter, Ga., GREENPOINT D. I. Exec: Dixie Amuse. Co., Swainsboro. (300)

Milledgeville, Ga., CADET D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Millen, Ga., JENKINS D. I. Exec: E. M. Brice, Pal Amuse Co., Vidalia. (300)

Montezuma, Ga., JEM D. I. Exec: J. E. Martin. (309)

Moultrie, Ga., MOULTRIE D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (300)

Moultrie, Ga., SUNSET D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (250)

Newman, Ga., NEWMAN D. I., Atlantic Hwy. Exec: O. C. Lam, Lam Amuse., Rome. (400)

Pelham, Ga., PIKE D. I. Exec: Nat Williams. (275)

Quitman, Ga., DRIVE IN Exec: J. G. Snellgrove, Harlem Th., Moultrie. (150)

Rainesville, Ga., RAINESVILLE D. I. Exec: R. D. Word. (190)

Rome, Ga., CEDAR VALLEY D. I., Hwy. 27 and Cave Spring Rd. Exec: O. C. Lam, Lam Amuse. (700)

Rome, Ga., WEST ROME D. I. Exec: O. C. Lam, Lam Amuse. (500)

Rossville, Ga., STARLITE D. I. Exec: I. J. Sadow, Chattanooga, Tenn. (467)

Saint Simon Island, Ga., ISLAND D. I. Exec: C. T. Stevens. (300)

Sandersville, Ga., TWIN D. I. Exec: B. H. Smith, and N. L. Stephens, P. O. Box 1536, Savannah. (200)

Savannah, Ga., CIRCLE D. I., P. O. Box 1455. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (350)

Savannah, Ga., HIWAY 80 D. I., P. O. Box 1455. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (700)

Savannah, Ga., HIGHWAY 21 D. I., Rt. 1, Box 255B. Exec: Gus Hayes, and N .L. Stephens, Box 1536. (200)

Savannah, Ga., MONTGOMERY D. I., Montgomery St. Exec: Mel Brown. (500)

Savannah, Ga., PALM D. I. Exec: J. W. Hill. (300)

Savannah, Ga., PATIO D. I. Exec: N. L. Stephens. (400)

Savannah, Ga., VICTORY D. I., P. O. Box 1455. Exec: Harris Robinson, Dixie Drive-In Th. Ct., Walton Bldg., Atlanta. (234)

Springfield, Ga., SKYVIEW D. I. Exec: K. L. Ingram. (200)

Statesboro, Ga., FAMILY AUTO D. I. Exec: Hal Macon. (233)

Summerville, Ga., PENN D. I. Exec: J. S. Tankersley, Ellijay Th., Ellijay. (300)

Swainsboro, Ga., DIXIE D. I. Exec: W. H. Kahrr, Dixie Amuse. Co. (214)

Swainsboro, Ga., 56 D. I., P. O. Box 354. Exec: T. W. Bellamy. (206)

Sylvania, Ga., SCREVEN D. I. Exec: N. L. Stephens. (200)

Tallapoosa, Ga., STARDUST D. I. Exec: Carl Branscome. (220)

Thomaston, Ga., STARLITE D. I. Exec: O. E. Hudgins. (200)

Thomasville, Ga., HIWAY D. I., Thomasville-Tallahassee Hwy. Exec: Nat Williams, Highway Th. Bldg. (372)

Thomson, Ga., MELODY D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (366)

Tifton, Ga., HIWAY 82 D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (275)

Tifton, Ga., PINES D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (500)

Tiger, Ga., TIGER D. I. Exec: Claude Cannon. (175)

Toccoa, Ga., TOCCOA D. I. Exec: W. M. Snelson. (300)

Trion, Ga., MOONLITE D. I. Exec: L. A. Harris. (278)

Valdosta, Ga., FORREST D. I., Box 674. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Valdosta, Ga., MARTIN D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Valdosta, Ga., SKYWAY D. I., P. O. Box 561. Exec: Mr. J. D. Brown. (250)

Vidalia, Ga., PETES D. I., Lyon Rd., Box 462. Exec: E. M. Brice, Pal Amuse. Co. (369)

Warner Robbins, Ga., M and T D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus. (300)

Waycross, Ga., U. S. #1 D. I., Hwy. 1. Exec: Georgia Th. Co., Drawer 1713, Atlanta. (500)

Waycross, Ga., WAYCROSS D. I. Exec: Georgia Th. Ct., Drawer 1713, Atlanta. (200)

Waynesboro, Ga., WAYNESBORO D. I. Exec: L. N. Bailey. (100)

Woodbury, Ga., WOODBURY D. I. Exec: W. E. Blue. (100)

Kentucky

(NOTE: See also Cincinnati, Indianapolis, Memphis, and Saint Louis Territories)

Central City, Ky., 62 D. I. Exec: Rockwood Amuse. Co., 2208 Elliston Pl., Nashville, Tenn. (250)

Madisonville, Ky., SUNSET D. I. Exec: Crescent Amuse. Co., 415 Church St., Nashville, Tenn. (416)

Madisonville, Ky., WEST D. I. Exec: A. C. Cowles. (400)

Tompkinsville, Ky., SKYVIEW D. I. Exec: J. E. Craft. (250)

North Carolina

(NOTE: See also Charlotte and Washington Territories)

Franklin, N. C., FRANKLIN D. I. Exec: R. N. Morris, Box 913, Sylva. (200)

Tennessee

(NOTE: See also Charlotte and Memphis Territories)

Ardmore, Tenn., STARLITE D. I. Exec: A. C. Austin. (175)

Athens, Tenn., STARLITE D. I., Box 297. Exec: W. W. Fincher, Chatsworth, Ga. (200)

Bluff City, Tenn., TWIN CITY D. I. Exec: Harvey Diggs. (450)

Bristol, Tenn., BEACON D. I. Exec: Harvey Diggs and T. D. Field. (400)

Chattanooga, Tenn., BROAD ST. D. I. Exec: Abe Solomon, Independent Ths., 509 Cherry St. (500)

Chattanooga, Tenn., 41 D. I. Exec: W. W. Fincher, Chatsworth, Ga. (400)

Chattanooga, Tenn., 58th ST. D. I. Exec: W. W. Fincher, Chatsworth, Ga. (400)

Chattanooga, Tenn., LOOKOUT MT. D. I., 4914 Rossville Ave. Exec: J. Sadow, Ritz Th. (300)

Chattanooga, Tenn., SKYWAY D. I., 5500 Brainerd Rd. Exec: Abe Solomon, Independent Ths., 509 Cherry St. (400)

Chattanooga, Tenn., 23rd ST. D. I., 1701 E. 23rd St. Exec: W. W. Fincher, Chatsworth, Ga. (300)

Clarksville, Tenn., MOONLIGHT D. I. Route 4. Exec: H. L. McKinney, and Marguerite Stith, P. O. Box 436, Atlanta, Ga. (450)

Clarksville, Tenn., SUNSET D. I., P. O. Box 691. Exec: Crescent Amuse. Co., Warner Bldg., Nashville. (400)

Cleveland, Tenn., CHEROKEE D. I. Exec: B. A. Cox, and Tom Jones, 1586 Bridlewood Circle, Decatur, Ga. (280)

Cleveland, Tenn., COLONIAL D. I., Harrison Rd. Exec: A. E. Rook, Box 1422, Atlanta, Ga. (400)

Cleveland, Tenn., STARVUE D. I. Exec: Cletus Benton, and A. E. Rook, Box 1422, Atlanta, Ga. (400)

Clinton, Tenn., COLE D. I. Exec: Cole Bros., and A.B.C. Theatrical Ent, Box 1345, Atlanta, Ga. (375)

Columbia, Tenn., DAN DEE D. I. Exec: Robert Raney, Hatfield D. I., Athens, Ala. (450)

Columbia, Tenn., SUNDOWN D. I., Nashville Hwy. Exec: H. P. Vinson. (550)

Cookeville, Tenn, PUTNAM D. I., Hwy. 70. Exec: S. W. Whilhite. (200)

Crossville, Tenn., STARLITE D. I., P. O. Box 105. Exec: C. W. Webb. (250)

Dayton, Tenn., RHEA D. I., Route 2. Exec: E. Martin, Oldham Th., Winchester. (300)

Dunlap, Tenn., DRIVE IN. Exec: George W. Bryant. (250)

Elizabethton, Tenn., STATELINE D. I., P. O. Box 527. Exec: Earl B. Bolling. (250)

Elizabethton, Tenn., VALLEY D. I. Exec: Earl B. Bolling, P. O. Box 527. (240)

Erwin, Tenn., HOLIDAY D. I. Exec: Earle and Joe Hendren, Capitol Amuse. Co. (560)

Etowah, Tenn., ETOWAH D. I. Exec: Martin Ths. of Georgia, Box 391, Columbus, Ga. (300)

Fayetteville, Tenn., HIWAY 64 D. I. Exec: Otis Couch, Couch and Richardson, and A. E. Rook, Box 1422, Atlanta, Ga. (300)

Fountain City, Tenn., SKYWAY D. I., 6222 Broadway. Exec: R. J. Barnes, Box 1345, Atlanta, Ga. (450)

Gallatin, Tenn., SUMNER D. I. Exec: Frank Tinnon, and Tom Jones, 1586 Bridlewood Circle, Decatur, Ga. (300)

Greenville, Tenn., ASHWAY D. I. Exec: E. L. Wilson. (300)

Greenville, Tenn., NITE AUTO MOVIE D. I. Exec: W. J. Hatfield, Elza D. I. Th., Oak Ridge. (250)

Greenville, Tenn., WOODSIDE D. I. Exec: Robert Craft. (165)

Harriman, Tenn., FAMILY D. I. Exec: G. H. Clower. (300)

Harriman, Tenn., ROANE D. I. Exec: James Clark. (300)

Jamestown, Tenn., TWILIGHT D. I. Exec: Porter Hines, and A. E. Rook, Box 1422, Atlanta, Ga. (230)

Jefferson City, Tenn., CHEROKEE D. I. Exec: J. W. Smith, and Marguerite Stith, Box 436, Atlanta, Ga. (200)

Johnson City, Tenn., 11 E FAMILY D. I. Exec: J. W. Baird, Newport Amuse. Co., Newport. (400)

Johnson City, Tenn., KINGS SPRINGS D. I. Exec: Bernie Wylie. (50)

Johnson City, Tenn., TRI-CITIES D. I., Johnson City-Bristol Hwy. Exec: Bernie Wylie. (300)

Johnson City, Tenn., TWIN CITY D. I., Johnson City-Elizabethtown Hwy. Exec: Bernie Wylie. (300)

Kingsport, Tenn., 81 D. I., Route 5. Exec: A. E. Rook, Box 1422, Atlanta, Ga. (200)

Kingsport, Tenn., KINGSPORT D. I. Exec: Max Wilson. (300)

Knoxville, Tenn., CHAPMAN HIWAY D. I., Rt. 9. Exec: R. S. Spurgeon. (250)

Knoxville, Tenn., FAMILY D. I., 3546 Kingston Pike, Box 686. Exec: R. J. Barnes, P. O. Box 1345, Atlanta, Ga. (511)

Knoxville, Tenn., HORNE D. I. Exec: O. G. Roaden, Loyall, Ky. (400)

Knoxville, Tenn., KNOXVILLE D. I., P. O. Box 686. Exec: R. J. Barnes, Box 1345, Atlanta, Ga. (510)

Knoxville, Tenn., RIVER BREEZE D. I. Exec: Ben Maloy. (300)

Knoxville, Tenn., STARLITE D. I., 810 N Central Ave. Exec: Tim Smith. (400)

Knoxville, Tenn., SUNSET D. I. Exec: L. W. and G. L. Howard. (1500)

Lafayette, Tenn., MACON D. I. Exec: E. K. Stephens. (185)

LaFollette, Tenn., SKYWAY D. I. Exec: W. R. Holder, Cherokee Amuse. Co. (300)

Lawrenceburg, Tenn., LAWCO D. I. Exec: Lewis Rhulander. (300)

LeBanon, Tenn., CEDAR D. I. Exec: Mr. Miller. (300)

Lenoir City, Tenn., DIXIE LEE D. I., Dixie Lee Junction. Exec: Mose L. Waller, Jr. and Exhibitor Serv. Co., P. O. Box 2008, Atlanta, Ga. (300)

Lewisburg, Tenn., HIWAY 50 D. I. Exec: T. Boyd, Lewisburg Th. Co. (350)

Livingston, Tenn., SKYLINE D. I., P. O. Box 18. Exec: E. K. Stephens, and Marguerite Stith, Box 436, Atlanta, Ga. (225)

Livingson, Tenn., SUNDOWN D. I. Exec: Marinella Rose. (250)

Loudon, Tenn., COLE D. I. Exec: W. H. and J. J. Cole, and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (225)

Madison, Tenn., MONTOGUE D. I. (Nashville), Gallatin Rd., P. O. Box 187. Exec: A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (600)

Madisonville, Tenn., MADISON D. I. Exec: Carl Balsinger. (250)

Maryville, Tenn., DRUID HILLS D. I., P. O. Box 386. Exec: Paul Elrod. (502)

Maryville, Tenn., LAKEMENT D. I. (Alcoa), Hwy. 129, Box 183. Exec: Mrs. Mel Foree. (246)

Maryville, Tenn., PARKWAY D. I., P. O. Box 4. Exec: Cecil Brooks. (350)

Mascot, Tenn., COMMUNITY D. I. (Knoxville). Exec: W. R. Holder, Cherokee Amuse. Co., LaFollette. (200)

McMinnville, Tenn., BEN LOMAND D. I. Manchester Hwy. Exec: Ben Lomand. (300)

Monteagle, Tenn., MONTEAGLE D. I. Exec: J. D. Hunziker, and A. E. Rook, Box 1422, Atlanta, Ga. (306)

Morristown, Tenn., KING RIDGE D. I. Exec: B. Eisman, and A.B.C. Theatrical Ent., Box 1345, Atlanta, Ga. (288)

Mooristown, Tenn., SKYLINE D. I. Exec: D. G. Baker, and A. E. Rook, Box 1422, Atlanta, Ga. (325)

Murfreesboro, Tenn., 4-LANE D. I. Exec: W. D. Hamaker, Starlight D. I. (225)

Murfreesboro, Tenn., STARLITE D. I., P. O. Box 583. Exec: W. D. Hamaker. (150)

Nashville, Tenn., BEL-AIR D. I. Exec: C. H. Kuertz, Pike Th. (640)

Nashville, Tenn., BORDEAU D. I. Exec: Crescent Amuse. Co., 415 Church St. (425)

Nashville, Tenn., COLONIAL D. I. Exec: A. C. Cowles, 1742 Monroe Dr., N. E., Atlanta, Ga. (820)

Nashville, Tenn., CRESCENT D. I., Murfreesboro Pike. Exec: Crescent Amuse. Co., 415 Church St. (710)

Nashville, Tenn., SKYWAY D. I. Exec: Crescent Amuse. Co., 415 Church St. (600)

Newport, Tenn., NEWPORT D. I. Exec: W. R. Holder, Newport Amuse. Co., Nashville. (200)

Oak Ridge, Tenn., BURCHFIELD D. I. Exec: W. J. Hatfield, Elza D. I. (400)

Oak Ridge, Tenn., ELZA D. I. Exec: W. J. Hatfield. (270)

Oak Ridge, Tenn., SKYWAY D. I., Oak Ridge Turn Pike, P. O. Box 421. Exec: W. J. Hatfield, Elza D. I. (300)

Oliver Springs, Tenn., CAREFREE D. I., Box 38. Exec: M. E. Williams. (250)

Oneida, Tenn., SKYWAY D. I. Exec: Cherokee Amuse., 415 Church St., Nashville. (200)

Pulaski, Tenn., MOONGLO D. I. Exec: David E. Cheatham. (375)

Red Bank, Tenn., RED BANK D. I. Exec: Abe Solomon, Independent Ths., 509 Cherry St., Chattanooga. (500)

Rogersville, Tenn., HILAND D. I. Exec: H. Cecil Acuff, and Marguerite Stith, Box 436, Atlanta, Ga. (200)

Sevierville, Tenn., MIDWAY D. I. Exec: C. L. Wilson. (257)

Shelbyville, Tenn., 41 D. I. Exec: J. M. Tune. (315)

Sparta, Tenn., SPARTA D. I. Exec: Cowan Oldham, Cumberland Amuse. Co., McMinnville. (200)

Springfield, Tenn., MOONLIGHT D. I. Exec: William Henry. (250)

Sweetwater, Tenn., SKYLARK D. I. Exec: Cherokee Amuse. Co., 415 Church St., Nashville. (200)

Tazewell, Tenn., TAZEWELL D. I. Exec: E. J. Steiner. (260)

Tullahoma, Tenn., ARNOLD D. I., Box 1436. Exec: Earnest Martin, Oldham Th. (500)

Tullahoma, Tenn., PLAZA D. I. Exec: Earnest Martin, Oldham Th. (280)

Whitwell, Tenn., CROSSROADS D. I. Exec: Reeves and Clay. (400)

Winchester, Tenn., FAMILY D. I. Exec: Cowan Oldham, Cumberland Amuse. Co., McMinnville. (250)

Woodbury, Tenn., SKYLARK D. I. Exec: W. B. Hancock. (85)

BOSTON TERRITORY

Connecticut

(NOTE: See also New Haven Territory)

Quinebaug, Conn., DRIVE IN. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (415)

Maine

Augusta, Me., AUGUSTA D. I. (Manchester). Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (900)

Bangor, Me., BANGOR D. I. Exec: Graphic Ct., 351 Newbury St., Boston, Mass. (900)

Bangor, Me., BREWER D. I., R.F.D. #5. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (800)

Baring, Me., DRIVE IN. Exec: S. Scott, and H. Higgins, Statler Bldg., Boston, Mass. (330)

Belfast, Me., BELFAST D. I. Exec: Graphic Ct., 351 Newbury St., Boston, Mass. (300)

Brunswick, Me., BOWDOIN D. I., U. S. Rt. 1, E. Brunswick. Exec: Al Laurie. (300)

Brunswick, Me., BRUNSWICK D. I., U. S. Route 1, East Brunswick. Exec: W. C. Gould, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (450)

Caribou, Me., POLARIS D. I. Exec: M. Christy. (500)

Cornish, Me., CORNISH D. I. Exec: Russell Martin, and N. Higgins, Statler Bldg., Boston, Mass. (225)

Danville, Me., DANVILLE D. I. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Theatre Ent., 260 Tremont St., Boston, Mass. (450)

Detroit, Me., MIDWAY D. I. Exec: Kenneth Bishop, and H. Young, 69 Cliffmont St., Roslindale, Mass. (300)

Ellsworth, Me., TRENTON D. I. Exec: Sam Nyer, 44 E. Summer St., Bangor. (300)

Fort Fairfield, Me., DRIVE IN. Exec: S. Dean, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (260)

Fort Kent, Me., FORT KENT D. I. Exec: Charles Brook, and H. Young, 69 Cliffmont St., Roslindale, Mass. (400)

Houlton, Me., BORDERLINE D. I., U. S. Rt. 1. Exec: Lewis Webber and Hy Young Ent., 69 Cliffmont St., Roslindale, Mass. (450)

Jay, Me., DRIVE IN. Exec: H. L. Keag. (250)

Kennebunk, Me., KENNEBUNK D. I. Exec: Mrs. Katherine Avery and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (350)

Kittery, Me., YORK D. I., Rt. 1. Exec: Al Laurie, Adams Th., Dorchester, Mass. (400)

Lewiston, Me., LEWISTON D. I., Box 1176. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (1000)

Lewiston, Me., LISBON D. I., Lisbon Rd. Exec: Royal and John Boldue, Colebrook, N. H. (500)

Madawaska, Me., MADAWASKA D. I. Exec: E. Micheaud, and Herbert Higgins, Statler Bldg., Boston, Mass. (300)

Mattawamkeag, Me., KATHADIN D. I. Exec: L. Bilodeau, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (175)

Milo, Me., MILO D. I. Exec: Ella Mills and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (450)

North Windham, Me, WINDHAM D. I., Route 302. Exec: B & W Ths., Inc., Uptown Th., Dover, N. H. (450)

Oxford, Me., DRIVE IN. Exec: Lester Soule, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (220)

Presque Island, Me., PRESQUE ISLAND D. I. Exec: Charles Brooks, and Hy Young, 69 Cliffmont St., Roslindale, Mass. (350)

Rockland, Me., DRIVE IN. Exec: Graphic Ct., 351 Newberry St., Boston, Mass. (453)

Rumford, Me., RUMFORD D. I. Exec: E. Pollard, and H. Higgins, Statler Bldg., Boston, Mass. (400)

Saco, Me., SACO AUTO D. I., Rt. 1, Portland Rd. Exec: A. C. O'Neill, and H. Higgins, Statler Bldg., Boston, Mass. (300)

Sanford, Me., SANFORD D. I. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (400)

Scarboro, Me., PORTLAND D. I., P. O. Box 7. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (950)

Skowhegan, Me., SKOWHEGAN D. I. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (360)

Van Buren, Me., VAN BUREN D. I. Exec: Mrs. Lillian Keegan, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (376)

Westbrook, Me., PRIDES D. I. Exec: Avadis and John Tevanian. (500)

West Enfield, Me., WEST ENFIELD D. I. Exec: Sam Myer. (250)

Winslow, Me., WINSLOW D. I. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (500)

Yarmouth, Me., YARMOUTH D. I. Exec: Saul Hayes and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (200)

Massachusetts

Avon, Mass., AVON D. I., Memorial Drive. Exec: Interstate Th. Corp., 260 Tremont St., Boston. (800)

Bellingham, Mass., BELLINGHAM D. I., Pulaski Blvd. Exec: Richter and Sperling, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (200)

Billerica, Mass., PINEHURST D. I. (Boston). Exec: James Sheeran. (500)

Boxboro, Mass., NASHOBA D. I. Exec: Louis Flerra, and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Braintree, Mass., QUINTREE D. I., 444 Quincy Ave. Exec: Herman Rifkin Ths., 39 Church St., Boston. (500)

Brockton, Mass., SKY VIEW D. I. Exec: Herman Rifkin Ths., 39 Church St., Boston. (736)

Burlington, Mass., 128 D. I., Rt. 128. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (950)

Cambridge, Mass., FRESH POND D. I., P. O. Box 97. Exec: George McLaughlin, and Affiliated Ths. Corp., 31 St. James St., Boston. (1030)

Chicopee Falls, Mass., AIRLINE D. I. Exec: M. Walas and Daytz Th. Ent., 260 Tremont St., Boston. (1000)

Dartmouth, Mass., DARTMOUTH D. I., Rt. 6, Cross Rd. Exec: N. Yamins Ths., and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Dedham, Mass., DEDHAM D. I., Rt. 1, Elm St. Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (1000)

Dennis, Mass., DENNIS D. I. Exec: Interstate Ths. Corp., 260 Tremont St., Boston. (600)

Fairhaven, Mass, FAIRHAVEN D. I., Rt. 6, Bridge St. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (800)

Falmouth, Mass., COD D. I. Exec: Herman Rifkin, 39 Church St., Boston. (600)

Gardner, Mass., MOHAWK D. I. Exec: Joseph Schwartz, and Affiliated Ths. Corp., 31 St. James St., Boston. (500)

Hadley, Mass., HADLEY D. I., 310 Russell St. Exec: A. Worgekoski, and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Haverhill, Mass., RIVERSIDE D. I., 901 River Rd. Exec: A. Arakelian. (400)

Hyannis, Mass., DRIVE IN. Exec: Interstate Ths., 260 Tremont St., Boston. (500)

Kingston, Mass., PLYMOUTH D. I., Plymouth Hwy. Exec: E. M. Loew Ct., 175 Huntington St., Boston, and Lawrence Laskey. (625)

Lanesboro, Mass., SUNSET D. I., Route 7. Exec: A. Cloutier. (300)

Lowell, Mass., LOWELL D. I., 94 Fowler Rd. Exec: Dick Edwards. (300)

Lunenberg, Mass., TRI-TOWN D. I. Exec: Edwin Fedeli, Rialto Th., Worcester. (800)

Lunenberg, Mass., WHALOM D. I., Electric Ave. Exec: Silvio Williams, and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Lynn, Mass., LYNN OPEN AIR D. I., Route 1A. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (500)

Marshfield, Mass., MARSHFIELD D. I., Ocean St., Rt. 139. Exec: Frank Calvi. (500)

Medford, Mass., MEADOW GLEN D. I., 3850 Mystic Valley Parkway. Exec: Philip Lowe, and Herman Rifkin Ths., 39 Church St., Boston. (1000)

Mendon, Mass., MILFORD D. I., Box 274. Exec: Twin D. I. Th., and Affiliated Ths., 31 St. James Ave., Boston. (485)

Methuen, Mass., MERRIMACK PARK D. I., Merrimack Park Dr., Lowell Blvd. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (325)

Natick, Mass., NATICK D. I. Exec: Phil Smith Th. Ent., 82 Newberry St., Boston. (1000)

Neponset, Mass., NEPONSET D. I. (Dorchester). Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (1350)

Northfield, Mass., AUTO D. I. Exec: C. Nilman, Shelburne Falls. (300)

North Andover, Mass., DENROCK D. I. Exec: John Shay, and Daytz Th. Ent., 260 Tremont St., Boston. (1000)

North Reading Mass., READING D. I. Exec: American Th. Corp., 646 Washington St., Boston. (1000)

North Wilbraham, Mass., PARKWAY D. I., Boston Rd. Exec: M. R. Zio and Daytz Th. Ent., 260 Tremont St., Boston. (998)

Orange, Mass., PIONEER VALLEY D. I. (Boston). Exec: O. Whitney, and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Oxford, Mass., OXFORD D. I. Exec: American Th. Corp., 646 Washington St., Boston. (180)

Palmer, Mass., MET AIR PORT D. I. Exec: L. Meceli. (300)

Pittsfield, Mass., BERKSHIRE D. I. Exec: H. Lazarus. (600)

Plainville, Mass., PLAINVILLE D. I., Kelly Blvd. Exec: Henry Neveaux, R.F.D. Box 218, North Attleboro. (496)

Raynham, Mass., DRIVE IN, Route 128. Exec: C. Murby, and Herbert Higgins, Statler Bldg., Boston. (600)

Revere, Mass., REVERE D. I., Squire Rd. Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Salisbury, Mass., SALISBURY D. I., Beach Rd. Exec: Al Rudenstein. (500)

Saugus, Mass., SAUGUS D. I., Route 1. Exec: American Ths. Corp., 646 Washington St., Boston. (400)

Seekonk, Mass., BAY STATE D. I., Route 6. Exec: Nathan Yamins, and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Shelbourne Falls, Mass., COMMUNITY D. I. Exec: C. Nilman. (300)

Shrewsbury, Mass., EDGEMERE D. I. Exec: Peter Maroni, and Daytz Th. Ent., 260 Tremont St., Boston. (300)

Shrewsbury, Mass., OPEN AIR D. I., Route 9. Exec: American Ths. Corp., 646 Washington St., Boston. (550)

Somerset, Mass., SOMERSET FAMILY D. I., Brayton Pt. Rd. Exec: Maurice Safner, Joseph L. Schwartz, Theodore Rosenblatt, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (560)

Southampton, Mass., SOUTHAMPTON D. I. Exec: A. Yamilkowski, and Herbert Higgins, Statler Bldg., Boston. (400)

South Attleboro, Mass., BORO D. I. Exec: Joe Stanzler. (875)

South Deerfield, Mass., VALLEY VIEW D. I., Rt. 116, Conway Rd. Exec: Edw. J. King, 52 Grinnell St., Greenfield. (250)

Springfield, Mass., ROUND HILL D. I., 101 Plainfield St. Exec: Joseph E. Levine and Daytz Th. Ent., 260 Tremont St., Boston. (750)

Sturbridge, Mass., DOLLY D. I. Exec: Peter J. Manone and Daytz Th. Ent., 260 Tremont St., Boston. (400)

Sutton, Mass., MOTOR-IN, Providence Rd. Exec: Wilfred Bernard, Millbury, and Herbert Higgins, Statler Bldg., Boston. (500)

Tewskbury, Mass., DRIVE IN. Exec: J. Asadorian, and Daytz Th. Ent., 260 Tremont St., Boston. (798)

Turners Falls, Mass., PARK VILLA D. I. Exec: Frank Kuzmeskus, and Affiliated Ths. Corp., 31 St. James Ave., Boston. (350)

Tyngsboro, Mass., TYNGSBORO D. I. Exec: George Abdallah, 203 Branch St., Lowell. (300)

Uxbridge, Mass., QUAKER D. I. Exec: N. Eisner, and Daytz Th. Ent., 260 Tremont St., Boston. (500)

Wareham, Mass, WAREHAM D. I. Exec: Herman Rifkin Ths., 39 Church St., Boston. (500)

West Boylston, Mass., WORCESTER D. I. (Worcester). Exec: E. M. Loew Ct., 175 Huntington St., Boston. (1600)

Westfield, Mass., SUNDOWN AUTO D. I., Route 202. Exec: Barnet Jonafski, Joseph Levine, and Daytz Th. Ent., 260 Tremont St., Boston. (660)

Westport, Mass., WESTPORT D. I., P. O. Box 98. Exec: N. Yamins Ths., Providence, R. I., and Daytz Th. Ent., 260 Tremont St., Boston. (692)

West Roxbury, Mass., VFW PARKWAY D. I., 1213 VFW Parkway. Exec: Michael Redstone, and Daytz Th. Ent., 260 Tremont St., Boston. (957)

West Springfield, Mass., RIVERDALE D. I., 935 Riverdale. Exec: E. M. Loew Ct., 175 Huntington St., Boston. (600)

West Springfield, Mass., WEST SPRINGFIELD D. I., Route 20, 555 Memorial Ave. Exec: American Ths. Corp., 646 Washington St., Boston. (800)

Weymouth, Mass., WEYMOUTH D. I., Route 3A. Exec: American Ths. Corp., 646 Washington St., Boston. (600)

New Hampshire

Alton, N. H., ALTON D. I. Exec: Arthur Dickey, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (276)

Bethlehem, N. H., MIDWAY D. I. Exec: Joseph Cohen, 41 Church St., Boston, Mass. (400)

Boscawen, N. H., SKY-HI D. I., R.F.D. 3. Exec: W. Stariknok, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (386)

Brentwood, Kingston Line, N. H., BRENTWOOD D. I., Rt. 125. Exec: John Dimitrik, 57 Garden St., Everett 49, Mass. (300)

Claremont, N. H., CLAREMONT D. I., Rt. 103 and 11 Newport Rd. Exec: Robert Zerinsky. (500)

Concord, N. H., CONCORD D. I., Box 339. Exec: Lockwood and Gordon Ent., Metropolitan Bldg., Boston, Mass., and Daytz Th. Ents., 260 Tremont St., Boston, Mass. (500)

Gorham, N. H., GRANDVIEW D. I. Exec: Joseph Josephs, and H. Higgins, Statler Bldg., Boston, Mass. (400)

Hookset, N .H., SKY VIEW D. I. Exec: Nathan Yamins, and Affiliated Ths. Corp., 31 St. James Ave, Boston, Mass. (500)

Keene, N. H., KEENE D. I. Exec: Joseph Mathieu, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

Manchester, N. H., MANCHESTER D. I., 777 S. Willow. Exec: N. Yamins, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (500)

Manchester, N. H., PINE ISLAND D. I., Rt. 3A and 18. Exec: Jameston Amuse. Co. (Shea), 132 W. 43rd St., New York 36, N. Y. (300)

Nashua, N. H., NASHUA D. I., R.F.D. #1. Exec: J. E. Bronstein, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (500)

Newington, N. H., OPEN AIR D. I. Exec: James Nadeau, 26 Hough St., Dover, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

North Conway, N. H., WHITE MOUNTAIN D. I. Exec: A. F. Stoughton. (250)

North Hampton, N. H., NORTH HAMPTON D. I. Exec: James Sayer, Salem. (400)

Orford, N. H., STARLIGHT D. I., Hwy. 10. Exec: William Rose, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (250)

Rochester, N. H., SUNSET D. I., Route 16. Exec: James Nadeau, 26 Hough St., Dover, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

Salem, N. H., OLE ROCK D. I. Exec: James A. Sayer, Jr. (324)

Somersworth, N. H., STAR WAY D. I., Rt. 16, Box 188. Exec: James A. Sayer, Jr., Salem. (400)

Twin Mountain, N. H., TWIN MOUNTAIN D. I. Exec: Armand Duranleau, and H. Higgins, Statler Bldg., Boston, Mass. (400)

Weirs, N. H., WEIRS D. I. (Laconia). Exec: H. Gaudet, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (500)

Woodsville, N. H., DRIVE IN. Exec: Andrew Tegu, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

Rhode Island

Cranston, R. I., CRANSTON AUTO D. I., Oaklawn Ave., P. O. Box 75. Exec: William Deitch, and Affiliated Ths Corp., 31 St. James Ave., Boston, Mass. (1000)

Johnston, R. I., PIKE D. I., 1864 Hartford Ave. Exec: Herman Rifkin Ths., 39 Church St., Boston, Mass. (700)

Newport, R. I., NEWPORT FAMILY D. I. Exec: Harry Minassian, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (400)

North Kingston, R. I., QUONSET D. I. Exec: Joseph Stanzler. (600)

North Smithfield, R. I., RUSTIC D. I. Exec: M. Stanzler, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

Providence, R. I., PROVIDENCE D. I., Route 1. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (600)

Smithfield, R. I., ROUTE 44 D. I. Exec: Mel Safner, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

Westerly, R. I., WESTERLY D. I. Exec: Louis Vuono, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (500)

Vermont

(NOTE: See also Albany Territory)

Ascutney, Vt., MIDWAY D. I. Exec: Henry Garneau, Penny Th., 5 Crystal, Windsor. (356)

Bellows Falls, Vt., BELMONT D. I. Exec: R. M. Stocker, Chester Depot, and H. Higgins, Statler Bldg., Boston, Mass. (400)

Berlin, Vt., BERLIN D. I. Exec: R. Cody, and Hy Young, 68 Cliffmont St., Roslindale, Mass. (540)

Berlin, Vt., TWIN CITY D. I. Exec: M. Paquet, and H. Higgins, Statler Bldg., Boston, Mass. (450)

Bethel, Vt., RANDALL D. I. Exec: Harry Hudson. (150)

Brattleboro, Vt., PARKWAY D. I., Putney Rd. Exec: Marius Bonneau, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (450)

Burlington, Vt., SUNSET D. I., Route 127. Exec: D. Handy, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (600)

Colchester, Vt., MALLETTS BAY D. I. Exec: Gordon Jarvis, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (360)

Derby, Vt., DERBY PORT D. I. Exec: D. McNally. (508)

Fairlee, Vt., HOLIDAY PARK D. I. Exec: Reginald Drown, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (200)

Milton, Vt., MILTON D. I. Exec: A. A. Viens, and H. Higgins, Statler Bldg., Boston, Mass. (300)

Montpelier, Vt., MOONLIGHT D. I., Barre-Montpelier Rd. Exec: R. M. Cody, and Hy Young, 68 Cliffmont St., Roslindale, Mass. (400)

Morrisville, Vt., MORRISVILLE D. I. Exec: D. H. McNally. (150)

New Haven, Vt., MID HAVEN D. I. Exec: E. Morris, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (400)

North Montpelier, Vt., HOMESTEAD D. I. Exec: John C. Coffrin. (300)

Norton, Vt., DRIVE IN. Exec: John Klinefeter, and H. Higgins, Statler Bldg., Boston, Mass. (200)

Richford, Vt., RICHFORD D. I. Exec: Roy D. Brown. (400)

Rutland, Vt., RUTLAND D. I. Exec: Edwin A. Morgan, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (360)

Saint Albans, Vt., ST. ALBANS D. I., R.F.D. #1 Exec: R. J. Ryan, Ralph W. Dexter, and H. Higgins, Statler Bldg., Boston, Mass. (550)

Saint Johnsbury, Vt., BLUE MOON D. I. Exec: D. McNally. (378)

White River Junction, Vt., WHITE RIVER D. I. Exec: Interstate Ths., 260 Tremont St., Boston, Mass. (600)

Winooski, Vt., MOUNT VIEW D. I., P. O. Box 104. Exec: O. Bernadine, and Daytz Th. Ent., 260 Tremont St., Boston, Mass. (400)

Woodstock, Vt., DRIVE IN. Exec: Charles Carey, and Affiliated Ths. Corp., 31 St. James Ave., Boston, Mass. (—)

BUFFALO TERRITORY

New York

(NOTE: See also Albany and New York Territories)

Allegany, N. Y., ALLEGANY D. I. Exec: Nate Dickman, and Harry Berkson, 505 Pearl St., Buffalo 2. (550)

Angola, N. Y., GRAND VIEW D. I., Evans Rd. at Lake St., Route 5. Exec: Elmer Reitler. (832)

Athol Springs, N. Y., SKYWAY D. I., Lakeshore Rd. Exec: Wm. Brett, and Wm. Rosenow, 176 Franklin St., Buffalo. (1050)

Auburn, N. Y., FINGER LAKES D. I. (Aurelius). Exec: Anthony DeNiro and Don Wilson. 44 West St. (300)

Batavia, N. Y., BATAVIA D. I. (Stafford). Exec: Dipson Ct., P. O. Box 399. Exec: Raymond Babcock. (400)

Batavia, N. Y., SKYWAY GENESEE D. I., Clinton St. Road R.D. Exec: Raymond Babcock. (400)

Bath, N. Y., BATH D. I., Lake Road. Exec: Joseph T. Murphy. (516)

Big Flats, N. Y., ELMIRA D. I., Box 929, Elmira. Exec: H. L. Berinstein, P. O. Box 1093, Syracuse. (500)

Binghamton, N. Y., FRONT STREET D. I. (Nimmonsburg), 1260 Front St., Box 106. Exec: Herbert Nittke. (600)

Blasdell, N. Y., STAR D. I., Lake Ave. Exec: Blatt Bros. Ct., 194 Castle Shannon Blvd., Pittsburgh, Pa. (550)

Buffalo, N. Y., NIAGARA D. I. (Tonawanda), Niagara Falls Blvd. Exec: Wm. Brett and Wm. Rosenow, 170 Franklin St. (700)

Canandaigua, N. Y., PARKWAY D. I., Rt. 5. Exec: Slotnick and Gradell, P. O. Box 5. (400)

Cheektowaga, N. Y., AERO D. I., 3755 Union Rd. Exec: Al Wright, Buffalo 25. (500)

Cheektowaga, N. Y., BROADWAY D. I., Broadway. Exec: Marvin Atlas, 305 Mt. Vernon Rd., Snyder. (600)

Cheektowaga, N. Y., BUFFALO D. I., Harlem Rd. at Genesee. Exec: Alex Wintner, N.B.C. Bldg., Cleveland 14, Ohio. (650)

Cicero, N. Y., NORTH D. I., N. Syracuse-Cicero Rd. Exec: Sam Slotnick, Globe Th., Syracuse. (850)

Corning, N. Y., CORNING D. I. Exec: James Ryan, 413 W. State St., Ithaca. (500)

Cortland, N. Y., AIRPORT D. I. Exec: Joe Granato, and Charles Flang. (500)

Dryden, N. Y., DRYDEN D. I., Box 505, Ithaca. Exec: H. L. Berinstein, P. O. Box 1093, Syracuse. (600)

East Syracuse, N. Y., DEWITT D. I., R.D. #3. Exec: Sam Slotnick, Globe Th., Syracuse. (800)

Ebenezer, N. Y., PARK D. I., Orchard Park Rd. Exec: Frank Stephen. (500)

Endwell, N. Y., TRI-CITIES D. I. (Binghamton), George F. Hwy. Exec: C & D Ths., Comerford Ct. (600)

Gasport, N. Y., LOCKPORT D. I., Route 31. Exec: George F. Tator, 160 Hollywood Ave., Buffalo. (300)

Geneva, N. Y., SENECA D. I. Exec: N. Dickman, and Harry Berkson, 505 Pearl St., Buffalo. (500)

Greece, N. Y., CENTRAL D. I. (Rochester), 1700 Long Pond Rd. Exec: Fred Schweppe, and Jack Tishkoff. (1000)

Greece, N. Y., LAKESHORE D. I. (Rochester), Ling Rd. Exec: Joseph Iamon, Joseph Trott, and Forest J. Robbins. 53 Winchester St., Rochester. (450)

Henrietta, N. Y., STARLITE D. I. (Rochester). Exec: Don Stevenson, 2970 W. Henrietta Rd., Rochester. (810)

Homer, N. Y., HOMER D. I., R.D. #11, Health Camp Rd. Exec: W. A. Shaw. (390)

Hornell, N. Y., STARLITE D. I. Exec: N. Dickman, and Harry Berkson, 505 Pearl St., Buffalo. (500)

Jamestown, N. Y., PIC 17 D. I. (Fluvanna), Route 1 RFD. Exec: Goldstein and Ochs. (600)

Lakewood, N. Y., LAKEWOOD D. I. (Mayville). Exec: Blatt Bros. Ct., 194 Castle Shannon Blvd., Pittsburgh, Pa. (525)

Lancaster, N. Y., WEHBLE D. I., Transit Rd. Exec: Sarke Stephen, Stephen Amuse. Co., 351 N. Division St., Buffalo. (700)

Limestone, N. Y., LIMESTONE D. I., P. O. Box 707, Kane, Pa. Exec: Wayne Holms, Kane, Pa., and Cliff Brown, Treasurer, Bradford D. I. Corp. (400)

Lockport, N. Y., TRANSIT D. I. Exec: Anthony Ragusa. (350)

Maple Springs, N. Y., MIDWAY D. I., Rt. 17, % Blatt Brothers, Mayville. Exec: Blatt Bros. Ct., 194 Castle Shannon Blvd., Pittsburgh, Pa. (300)

Middleport, N. Y., SUNSET D. I., Church St. Exec: Alex Stornelli. (290)

Minetto, N. Y., MIDWAY D. I., Route 48, West River Rd. Exec: R. C. Canter, 215 Crawford Ave., Syracuse. (450)

Medrow, N. Y., SALINA D. I. Exec: Mrs. Anne Aupperle, 401 Dewitt St., Syracuse. (600)

Niagara Falls, N. Y., FALLS AUTOVUE D. I. Exec: Robert and Richard Hayman, 21 Falls St. (600)

Niagara Falls, N. Y., STARLITE D. I., Military Rd. Exec: Robert and Richard Hayman, 21 Falls St. (600)

Perry, N. Y., SILVER LAKE D. I., Rt. 39, Perry-Castle Rd. Exec: Harry K. Martin, and Harold Hughes. (400)

Rochester, N. Y., NORTH PARK D. I. Exec: Charles Martina, Rialto Th., Albion. (350)

Rochester, N. Y., ROCHESTER D. I., 1200 Scottsville Rd. Exec: Alex Wintner, 714 N.B.C. Bldg., Cleveland 14, Ohio, and George Hansen, and Rochester D. I. Th. Corp. (726)

Sennett, N. Y., EAST D. I. (Auburn), RD #6. Exec: Mrs. A. M. Wallace and Mrs. Shields, P. O. Box 426, Auburn. (500)

Syracuse, N. Y., KALLET D. I. Exec: S. J. Kallet, Kallet Ths., Inc., Oneida. (950)

Tonawanda, N. Y., DELAWARE D. I., 4100 Delaware Ave. Exec: N. Dickman, and Harry Berkson, 505 Pearl St., Buffalo. (954)

Van Buren Point, N. Y., VAN BUREN POINT
Tonawanda, N. Y., SHERIDAN D. I., Sheridan Dr. Exec: Irving Cohen, 150 Campus Dr., Snyder. (700)

D. I., R.F.D. #2, Dunkirk. Exec: Irving Cohen, 150 Campus Dr., Snyder, and Albert Shapiro. (800)

Wallington, N. Y., SKYWAY D. I., Route 104. Exec: Jack Freedman, 444 Carter St., Rochester. (400)

Westfield, N. Y., WESTFIELD D. I. Exec: J. Catanya. (400)

West Webster, N. Y., EMPIRE D I., P. O. Box 166, Rochester-Webster Rd. Exec: H. Graden Hodges, and Mr. Murphy. (800)

Wheatfield, N. Y., BOULEVARD D. I. Exec: Anthony Ragusa, 71 Seneca St., Buffalo. (800)

CHARLOTTE TERRITORY

North Carolina

(NOTE: See also Atlanta and Washington Territories)

Ahoskie, N. C., AHOSKIE D. I. Exec: H. P. Howell. (196)

Albemarle, N. C., ALBEMARLE D. I., R.F.D. #2. Exec: G. L. Faw. (300)

Albemarle, N. C., BADIN ROAD D. I., Rt. 2, Hwy. 27. Exec: G. L. Faw. (400)

Andrews, N. C., VALLEY D. I. Exec: Max Rinehardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Asheboro, N. C., HI-WAY 49 W. D. I., Rt. #3. Exec: G. L. Faw. (300)

Asheboro, N. C., NORTH 220 D. I., Route 220. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (484)

Asheville, N. C., DREAMLAND D. I., Rt. 74 S. E. Old Black Mtn. Hwy., P. O. Box 2694. Exec: Dick Jennings. (600)

Asheville, N. C., OUTDOOR D. I. (Former Auto). Exec: W. C. Macon, Technical Bldg. (465)

Asheville, N. C., STARLITE D. I. Exec: W. C. Macon, and H. Southworth, Technical Bldg. (500)

Ayden, N. C., DIXIE D. I. Exec: Carolina Booking, 135 Brevard Ct., Charlotte. (150)

Beaufort, N. C., EAST D. I., P. O. Box 147, Morehead City. Exec: Victor Wickizer. (198)

Belmont, N. C., BELMONT D. I., Hwy. 223, General Delivery. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (340)

Benson, N. C., STAR-VUE D. I., Route 301. Exec: Alonzo Parrish. (175)

Bessemer City, N. C., BESSEMER D. I., R.F.D. #2. Exec: R. G. Stinett. (200)

Beulaville, N. C., TWILIGHT D. I. Exec: A. Y. Lanier. (200)

Bladenboro, N. C., TWILITE D. I. Exec: H. M. Sykes. (200)

Boardman, N. C., SUNSET D. I., P. O. Box 180. Exec: A. B. Williams. (150)

Boone, N. C., SKYVIEW D. I. Exec: A. E. Hamby, Jr., and J. W. Hodges, Jr. (272)

Brevard, N. C., BREVARD D. I., Route #2. Exec: Mrs. G. D. Burton. (250)

Brevard, N. C., STAR D. I. Exec: S. G. Siniard. (150)

Bryson City, N. C., HILL TOP D. I. Exec: J. E. Massie. (200)

Burgaw, N. C., ROWE D. I. Exec: Roy Rowe. (180)

Burlington, N. C., BON-AIR D. I. Exec: R. C. Saunders. (300)

Burlington, N. C., BUR-GRA D. I., 1924 Maple Ave. Exec: R. C. Saunders. (314)

Burlington, N. C., EAST 70 D. I., Box 707. Exec: Consolidated Ths., P. O. Box 2446, Charlotte. (424)

Burnsville, N. C., RIVERSIDE D. I., Hwy. 19. Exec: H. M. Sykes. (200)

Candor, N. C., 220 D. I. Exec: R. C. Saunders. (150)

Canton, N. C., CANTON D. I. Exec: Clayton Mehaffey, Clyde. (300)

Cary N. C., SOUTH #1 D. I. (Formerly Car-Ral) (Raleigh), Box 1901, High Point. Exec: J. T. McSwain. (200)

Chadbourn, N. C., LUCKY STAR D. I. Exec: D. W. Smith. (240)

Chadbourn, N. C., PINES D. I. Exec: Paul Barnes. (200)

Chapel Hill, N. C., VALLEY D. I. (Formerly Park-Vue). Exec: J. W. Thompson. (200)

Charlotte, N. C., ALBEMARLE ROAD D. I. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (320)

Charlotte, N C., MONROE ROAD D. I., Rt. 1, Matthews. Exec: R. C. Saunders. (200)

Charlotte, N. C., NORTH 29 D. I., P. O. Box 1262, Hwy. 29. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (600)

Charlotte, N. C., SOUTH 21 D. I., Pineville Rd., Box 3696. Exec: Corbin Smith. (400)

Charlotte, N. C., SOUTH 29 D. I., P. O. Box 1262. Exec: Harris Robinson, Dixie Drive-In Ths. Walton Bldg., Atlanta, Ga. (500)

Charlotte, N. C., THRIFT ROAD D. I. (Thrift), 109 Lakewood Ave. Exec: C. H. Faw, Monroe. (300)

Cherryville, N. C., CHERRYVILLE D. I., P. O. Box 175. Exec: John Ritchie. (250)

Chinquapin, N. C., HULA D. I. Exec: T. F. Sanderson. (200)

Chocowanity, N. C., CHO-CO D. I., P. O. Box 98. Exec: Floyd Cox, Box 495, Washington. (200)

Clayton, N. C., CENTER D. I. Exec: Mack Weeks. (200)

Clinton, N. C., AIR PORT D. I., Hwy. 42, R.R. 1. Exec: Hugh Sykes. (200)

Clinton, N. C., KITTY FORK D. I., Rt. 3. Exec: Hugh Sykes. (150)

Clinton, N. C., TOWER D. I., P. O. Box 864. Exec: T. A. Gale. (154)

Concord, N. C., CAROLINA D. I. Exec: J. O. Willis. (292)

Concord, N. C., CONCORD D. I., Hwy. 29. Exec: J. O. Willis. (302)

Concord, N. C., STARLITE D. I. Exec: J. O. Willis. (312)

Conover, N. C., NEWCON D. I. Exec: Colonial Ths. (300)

Dobson, N. C., DOBSON D. I., Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (248)

Drexel, N. C., HI PEAK D. I. Exec: Dolf Norris. (200)

Dublin, N. C., DUBLIN D. I. Exec: H. S. Brisson and Miller Taylor. (200)

Dunn, N. C., CENTER VIEW D. I. Exec: H. H. Jordon. (250)

Dunn, N. C., COTTON BOWL D. I., Dunn-Benson Hwy. Exec: Bill and Margaret Smith. (400)

Durham, N. C., COLLEGE VIEW D. I. Exec: R. C. Saunders. (200)

Durham, N. C., MIDWAY D. I., Hwy. 70, Box 206, W. Durham Sta. Exec: R. C. Saunders. (254)

Durham, N. C., SKYVIEW D. I., 3414 Wake Forest Rd. Exec: R. C. Saunders (298)

Durham, N. C., STARLITE D. I., Hwy. 15. Exec: H. M. Sykes. (190)

East Bend, N. C., EAST BEND D. I. Exec: D. W. Holder. (150)

Edenton, N. C., HI-WAY 17 D. I. Exec: Jimmy Earnhardt, Taylor Th. (196)

Elkin, N. C., VALLEY D. I. Exec: D. E. Gwynn. (242)

Fairmont, N. C., HI-WAY 41 D. I., Hwy. 41. Exec: Lewis Whitley. (250)

Farmville, N. C., SUNSET D. I. (Formerly New), Pine St. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Fayetteville, N. C., BOULEVARD D. I., 3306 Bragg Blvd. Exec: H. M. Sykes. (442)

Fayetteville, N. C., FLAMINGO D. I. Exec: J. G. Wellons. (450)

Fayetteville, N. C., FOX TWIN D. I., Ft. Bragg Blvd., Box 388. Exec: H. B. Meiselman, Radio City Bldg., Charlotte. (600)

Fayetteville, N. C., JET D. I. (Formerly Cumberland). Exec: R. C. Saunders. (196)

Fayetteville, N. C., MIDWAY D. I., Bragg Blvd. Exec: J. G. Wellons. (350)

Fayetteville, N C., RALEIGH ROAD D. I., Box 926. Exec: Stellings-Gossett Ths., Inc., 223 S. Church St., Charlotte. (400)

Fayetteville, N. C., SKYVIEW D. I. Exec: J. G. Wellons. (500)

Fayetteville, N. C., STARLITE D. I. Exec: J. G. Wellons. (450)

Forest City, N. C., MIDWAY D. I. Exec: Irvin Dantzie. (300)

Forest City, N. C., TRI-CITY D. I., Box 42A, Rt. 2. Exec: C. Duncan. (248)

Fuquay Springs, N. C., CAIRO D. I. (Formerly Five Points), Hwy. 42. Exec: Mack Weeks, and William Lipscomb. (150)

Gastonia, N. C., DIANE 29 D. I., Hwy. 321, Rt. 1, Box 51. Exec: F. B. Griggs. (600)

Gastonia, N. C., MONTE VISTA D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (350)

Gastonia, N. C., SUNSET D. I. Exec: F. B. Griggs. (225)

Gastonia, N. C., TOWER D. I., P. O. Box 1175. Exec: Consolidated Ths., Inc., Box 2446, Charlotte. (468)

Goldsboro, N. C., MODEL D. I., Route 5. Exec: H. M. Sykes. (150)

Goldsboro, N. C., WACO D. I., Box 481, Hwy. 70. Exec: A. F. Same, Jr., Statesville Th. Corp. (200)

Granite Falls, N. C., SKYLITE D. I., Box 304. Exec: Jack E. Moore. (275)

Grantsboro, N. C., GRANTSBORO D. I., Box 78. Exec: E. G. Gaskin. (200)

Greenboro, N. C., NORTH D. I., Hwy. 29, Box 732. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (565)

Greensboro, N. C., PARK D. I. Exec: R. F. Farbar. (300)

Greensboro, N. C., PIEDMONT D. I. (Guilford), P. O. Box 837. Exec: T. A. Little. (500)

Greensboro, N. C., SOUTH D. I., Box 732. Exec: Harris Robinson, Dixie Drive-In Ths., Walton Bldg., Atlanta, Ga. (460)

Greensboro, N. C., SUNDOWN D. I. Exec: Harry Stanley. (200)

Greenville, N. C., MEADOWBROOK D. I., Rt. 5, Box 836. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (400)

Greenville, N. C., SOUTH 11 D. I., Rt. 2, Box 135, Hwy. 11. Exec: William S. Briggs. (250)

Hamlet, N. C., HAMLET D. I., Box 901. Exec: Paul Thursh. (225)

Havelock, N. C., DING HAO D. I., P. O. Box 302. Exec: Ervin Beck. (250)

Havelock, N. C., MARINE D. I. Exec: John Kime. (450)

Henderson, N. C., HENDERSON D. I., Hwy. 7, Box 554 Exec: H. M. Sykes. (350)

Henderson, N. C., MOON-GLO D. I. Exec: S. S. Stevenson. (360)

Henderson, N. C., STARLITE D. I. Exec: Sterling Fowler. (200)

Hendersonville, N. C., HENDERSONVILLE D. I. Exec: Ben Pless. (364)

Hendersonville, N. C., JOY D. I. Exec: E. Y. Neill. (300)

Hickory, N. C., HICKORY D. I., Hwy. 64. Exec: Colonial Theatres. (350)

Hickory, N. C., MIDWAY D. I., P. O. Box 1635. Exec: R. C. Saunders. (300)

Hickory, N. C., SPRING ROAD D. I., P. O. Box 343. Exec: A. J. Rumley. (284)

High Point, N. C., CRESCENT D. I. (Formerly Moon-Glo), 2810 English St. Exec: V. L. Hill. (250)

High Point, N. C., POINTER D. I., Box 226. Exec: E. Y. Neill. (384)

High Point, N. C., TARHEEL D. I. (Archdale). Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (300)

Jacksonville, N. C., COMPARAMA D. I., P. O. Box 145. Exec: J. J. Thompson. (238)

Jacksonville, N. C., JACKSONVILLE D. I. (Formerly Kellum's), P. O. Box 62, Hwy. 17. Exec: N. J. Kellum. (150)

Jacksonville, N. C., MARINE D. I. Exec: John M. Kime. (300)

Jacksonville, N. C., NEW RIVER D. I. Exec: Victor Venters. (300)

Jacksonville, N. C., STARLITE D. I., 1304 Hargett. Exec: Sol Aragonia. (240)

Kannapolis, N. C., PARK IN, Cannon Blvd. Exec: H. H. Everett, Everett Ent. Ct., Charlotte. (478)

Kenly, N. C., FAMILY D. I. (Formerly Kenly). Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Kernersville, N. C., STARLITE D. I. Exec: Spud Stoker. (175)

King, N. C., KING D. I. Exec: D. E. Gwynn, Eden Ths., Leaksville. (224)

Kinston, N. C., BRIGHT LEAF D. I. Exec: E. G. Hill. (396)

Kinston, N. C., BROADWAY D. I., Hwy. 70. Exec: C. A. Broadway. (200)

Kinston, N. C., KINSTON D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (180)

Kinston, N. C., NU PONT D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (250)

Landis, N. C., PLAZA D. I., Box 174, China Grove. Exec: "Doc" Theimer, and Roy Ferguson. (200)

Laurel Hill, N. C., STARLITE D. I., Hwy. 74. Exec: Tom Britt. (200)

Laurinburg, N. C., FLAMINGO D. I. Exec: Stellings-Gossett Ths., 223 S. Church St., Charlotte. (400)

Laurinburg, N. C., LAURA-MAX D. I., Hwy. 74. Exec: L. J. Whitley. (225)

Leaksville, N. C., EDEN D. I. Exec: D. E. Gwynn. (274)

Leaksville, N. C., LEAKSVILLE D. I. Exec: D. E. Gwynn. (300)

Lenoir, N. C., CAROLINA D. I., 121 Vance St, Exec: Wayne Gregg. (300)

Lenoir, N. C., DELMAR D. I. Exec: H. M. Sykes. (200)

Lenoir, N. C., DRUM'S D. I. Route 9. Exec: R. D. Drum. (300)

Lexington, N. C., LEXINGTON D. I., Rt. 5, R.F.D. #5. Exec: John Callahan. (420)

Lillington, N. C., CRUISE IN, Lillington Airport, Hwy. 421. Exec: A. J. Collins. (170)

Lincolnton, N. C., FRIENDLY D. I., Hwy. 321, Rt. 5. Exec: Ben Nation and B. Griggs. (260)

Lincolnton, N. C., ROSELAND D. I., Hwy. 27. Exec: W. Ray Chapman. (250)

Lincolnton, N. C., STARLITE D. I., Hwy. 321. Exec: A. E. Miller. (362)

Locust Level, N. C., LOCUST LEVEL D. I., Hwy. 158. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Louisburg, N. C., CAR-VIEW D. I. Exec: A. F. Sams, Jr., Statesville Th. Corp. (250)

Lumberton, N. C., MELODY D. I. Exec: Jerry Mundy. (250)

Lumberton, N. C., STARLITE D. I., Hwy. 74, 804 E. 7th. Exec: Jerry Mundy. (200)

Lumberton, N. C., 211 D. I., Route 5. Exec: H. A. Anderson. (400)

Madison, N. C., MADISON D. I., Rt. #1, Hwy. 220. Exec: J. T. Baker. (328)

Mamers, N. C., MELODY D. I. Exec: Ernest Clark. (100)

Marion, N. C., GARDEN CITY D. I. Exec: W. C. Macon, Technical Bldg., Asheville. (324)

Midland, N. C., CROSS ROADS D. I. Exec: Marvin Widenhouse. (250)

Mocksville, N. C., DAVIE D. I., Avon St. Exec: N. S. Chaffin. (240)

Monroe, N. C., MONROE D. I., Hwy. 74. Exec: C. H. Faw. (225)

Mooresville, N. C., CAROLINA D. I. Exec: Dale Groom, Jr. (264)

Mooresville, N. C., MOORESVILLE-DAVIDSON D. I., Hwy. 21. Exec: W. M. Morgan. (186)

Morehead City, N. C., OCEAN PARK D. I., P. O. Box 644. Exec: Clyde Carr. (250)

Morganton, N. C., SKYLINE D. I., Hwy. 64. Exec: J. J. Accardi and Spake. (262)

Mount Airy, N. C., BRIGHT LEAF D. I. Exec: E. L. Davis. (250)

Mount Airy, N. C., MOUNT AIRY D. I., Hwy. 52. Exec: E. L. Davis and E. R. Forest. (250)

Mount Holly, N. C., MOONLITE D. I. Exec: Ritchie and Stallings. (200)

Mount Olive, N. C., CLEARVIEW D. I. Exec: Broadus Rivenbark. (300)

Murfreesboro, N. C., MURFREE D. I. Exec: R. C. Whitehurst. (150)

Murphy, N. C., MURPHY D. I. Exec: R. C. Saunders. (200)

Nashville, N. C., WHITE'S D. I., Rt. 2. Exec: E. A. White. (200)

Newbern, N. C., CRAVEN D. I. Exec: Ralph O. Pate. (198)

Newbern, N. C., MIDWAY D. I. (Formerly Starlite), 1017 Queen St. Exec: P. G. Parrott. (100)

Newbern, N. C., NEWBERN D. I. (Kinston), Hwy. 70. Exec: A. P. Hinnant. (184)

Newport, N. C., CATERET D. I. Exec: H. M. Sykes. (200)

Newton, N. C., SUNDOWN D. I. (Catawba). Exec: R. D. Drum, F. L. Cline and G. W. Murray. (200)

Norlina, N. C., NORLINA D. I. Exec: Cliff Allgood. (200)

North Wilkesboro, N. C., MILLERS CREEK D. I. Exec: Roy Cashion. (170)

North Wilkesboro, N. C., NORTH WILKESBORO D. I., Hwy. 16, Rt. 1. Exec: R. B. Adams. (228)

North Wilkesboro, N. C., STARLITE D. I. Exec: A. F. Sams, Jr., Statesville Th. Corp. (300)

Oxford, N. C., SKYLINE D. I., Henderson Rd., P. O. Box 828. Exec: R. Currin. (200)

Pantego, N. C., PUNGO D. I. Exec: H. M. Sykes. (200)

Pembroke, N. C., CIRCLE D. I. Exec: W. F. Paul. (300)

Pilot Mountain, N. C., PILOT D. I. Exec: Gordon and Pell. (225)

Pinetops, N. C., PINES D. I., Hwy. 43. Exec: C. A. Holiday. (200)

Pink Hill, N. C., MOTOR PARK D. I., Box 13, Hwy. 11. Exec: A. F. Sams, Jr., Statesville Th. Corp. (198)

Plymouth, N. C., PLYMOUTH D. I. Exec: Shep Brinkley. (150)

Pollocksville, N. C., MIDWAY D. I. Exec: H. M. Sykes. (130)

Raeford, N. C., RAEFORD D. I., P. O. Box 665. Exec: Vernon D. Lowder. (160)

Raleigh, N. C., FOREST D. I. Louisburg Rd., Box 583. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte. (476)

Raleigh, N. C., TOWER D. I., Wendell Hwy., P. O. Box 230. Exec: Wilby-Kincey Ct., Charlotte. (400)

Ramseur, N. C., DEEP RIVER D. I. Exec: R. G. Covington. (300)

Red Springs, N. C., RED SPRINGS D. I., Box 391. Exec: A. C. McSwain. (200)

Reidsville, N. C., LUCKY D. I., Box 1355. Exec: Hugh Sykes. (275)

Reidsville, N. C., MIDWAY D. I. Exec: W. H. Hendrix, Box 672, Greensboro. (426)

Richlands, N. C., SUNSET D. I. Exec: H. M. Sykes. (200)

Roanoke Rapids, N. C., FIFTH STREET D. I. Exec: Ray Thompson. (200)

Roanoke Rapids, N. C., GASTON D. I. Exec: Lyle Wilson. (350)

Roanoke Rapids, N. C., STARLITE D. I. Exec: Lyle Wilson. (350)

Robersonville, N. C., SUNDOWN D. I. Exec: J. H. Highsmith. (200)

Rockingham, N.C., ROCK-HAM D. I. Exec: Lewis J. Whitley. (200)

Rockingham, N. C., SKY-VIEW D. I., Hwy. 74. Exec: Lewis J. Whitley. (250)

Rocky Mount, N. C., HI-WAY D. I., N. 301, P. O. Box 93. Exec: Ray Thompson. (180)

Rocky Mount, N. C., SKY-VUE D. I., Hwy. 64, Rt. 2. Exec: Vernon Holder. (240)

Rocky Mount, N. C., STAR D. I., Leggett Rd., Box 509. Exec: George Ross. (200)

Rocky Mount, N. C., TOWER D. I., Tarboro Hwy. Exec: Wilby-Kincey Ct., Charlotte. (400)

Roseboro, N. C., SKYTOP D. I. Exec: Reuben Harris. (150)

Roxboro, N. C., CAROLINA D. I., Rt. 21. Exec: R. M. O'Briant. (150)

Saint Pauls, N. C., JOY D. I. Exec: O. K. Hogan. (200)

Salisbury, N. C., HIWAY 601 D. I. Exec: S. L. Pinkston. (450)

Salisbury, N. C., SALISBURY D. I., Albemarle Hwy. 29. Exec: J. W. Martin. (392)

Salisbury, N. C., SKYLINE D. I. Exec: R. E. Eason. (300)

Saluda, N. C., SALUDA D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (150)

Sanford, N. C., LEE D. I. Exec: O. C. Cagle. (300)

Sanford, N. C., NORTHVIEW D. I. Exec: H. J. Chapman. (250)

Sanford, N. C., SANFORD D. I., P. O. Box 755, Hwy. 1. Exec: H. J. Chapman. (300)

Shallotte, N. C., HOLIDAY D. I. Exec: Jesse Simmons. (150)

Shelby, N. C., SHELBY D. I., Hwy. 18, P. O. Box 346. Exec: C. W. Queen. (250)

Shelby, N. C., SUNSET D. I. (Swainsville). Exec: Colonial Ths. (342)

Siler City, N. C., SILER CITY D. I. Exec: Mrs. Runa Greenleaf. (200)

Silver Valley, N. C., LANTERN D. I., Hwys. 64 and 109. Exec: Jack H. Foust. (200)

Skyland, N. C., SKYLAND D. I., Hwy. 25. Exec: H. P. Campbell. (250)

Smithfield, N. C., COUNTY D. I., Hwy. 301. Exec: Rudy Howell. (400)

Smithfield, N. C., SMITHFIELD-SELMA D. I., Hwy. 301. Exec: H. P. Howell (190)

Smyrna, N. C., SMYRNA D. I., Hwy. 70. Exec: Ray Thompson. (125)

Southern Pines, N. C., STARVIEW D. I., Hwy. 1. Exec: C. A. Huntley. (200)

Sparta, N. C., TWIN OAKS D. I. Exec: Marvin Caudill. (200)

Spruce Pines, N. C., TRI COUNTY D. I. Exec: Tom Cooper. (175)

Statesville, N. C., HILLCREST D. I. Exec: Doc Theimer, Charlotte. (300)

Statesville, N. C., VILLA HEIGHTS D. I., Hwy. 21, 1321 W. Front St., Box 961. Exec: Doc Theimer, Charlotte. (324)

Stedman, N. C., MOONLITE D. I. Exec: H. M. Sykes. (175)

Swansboro, N. C., CEDAR POINT D. I. Exec: N. T. Hancock. (200)

Swansboro, N. C., SWANSBORO D. I. Exec: Clayton Humphrey. (200)

Sylva, N. C., SYLVA D. I. Exec: J. E. Massie. (200)

Tabor City, N. C., 410 D. I. Exec: Howard Anderson. (300)

Tabor City, N. C., PLAZA D. I., Hwy. 701. Pink Norris. (175)

Tarboro, N. C., STAR-VUE D. I. Exec: Vernon Holder. (200)

Taylorsville, N. C., TAYLORSVILLE D. I. Exec: W. D. Sears. (284)

Thomasville, N. C., MIDWAY D. I., P. O. Box 541. Exec: T. A. Little. (485)

Trenton, N. C., TRENT RIVER D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (100)

Troy, N. C., BISCOE-TROY D. I. Exec: G. L. Faw. (254)

Tryon, N. C., LAKE LANIER D. I. Exec: Stewart-Everett Ths. (200)

Vanceboro, N. C., STARLITE D. I. Exec: H. M. Sykes. (150)

Wadesboro, N. C., S 52 D. I. Exec: L. J. Whitley. (200)

Wadesboro, N. C., W 74 D. I. (Formerly Anson County), Hwy. 74. Exec: Charles Tucker. (160)

Walkertown, N. C., WALKERTOWN D. I. Exec: W. Huntley. (200)

Wallace, N. C., PEN-LIN D. I., P. O. Box 165. Exec: E. C. Sanderson. (200)

Wallace, N. C., WALLACE D. I., Rt. 2, Box 300, Hwy. 117. Exec: E. C. Sanderson. (200)

Walnut Cove, N. C., WALNUT COVE D. I. Exec: Hassel A. Fagg. (196)

Warsaw, N. C., WARSAW D. I. Exec: H. M. Sykes. (200)

Washington, N. C., PARK VIEW D. I., Hwy. 264. Exec: Thomas A. Bateman. (250)

Waynesville, N. C., SMOKEY MOUNTAIN D. I. Exec: H. M. Sykes. (190)

Waynesville, N. C., WAYNESVILLE D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (226)

Weeksville, N. C., WEBB D. I. Exec: J. H. Webster. (250)

Welcome, N. C., WELCOME D. I. Exec: E. E. Kepley and P. H. Phillips. (255)

Wendell, N. C., WHITES D. I. Exec: E. A. White. (200)

West Asheville, N. C., AUTO D. I. (Formerly Outdoor). Exec: W. C. Macon, Technical Bldg., Asheville. (324)

West Jefferson, N. C., JEFFERSON D. I. Exec: R. B. Adams, N. Wilkesboro. (150)

Whiteville, N C., STARLITE D. I., Box 188, Hwy. 76. Exec: Marion Davis. (300)

Williamston, N. C., TWILITE D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte. (200)

Wilmington, N. C., CAROLINA BEACH RD. D. I., P. O. Box 1304. Exec: W. E. Thrush, Rt. 2, Box 300A. (300)

Wilmington, N. C., NORTH 17 D. I., P. O. Box 542. Exec: Stellings-Gossett Ths., 223 S. Church St., Charlotte. (400)

Wilmington, N. C., PARKVIEW D. I. Exec: H. E. Meiselman, Charlotte. (400)

Wilmington, N. C., SKYLINE D. I. Exec: Stellings-Gossett Ths., 223 S. Church St., Charlotte. (450)

Wilmington, N. C., STARWAY D. I. Exec: Stellings-Gossett Ths., 223 S. Church St., Charlotte. (700)

Wilmington, N. C., WRIGHTSVILLE ROAD D. I., Box 698. Exec: Stellings-Gossett Ths., 223 S. Church St., Charlotte. (260)

Wilson, N. C., PINE VALLEY D. I., 410 Maplewood Ave. Exec: Roy L. Champion, P. O. Box 1330. (200)

Wilson, N. C., STARLITE D. I., Hwy. 117. Exec: Roy L. Champion, P. O. Box 1330. (450)

Wingate, N. C., MOONLITE D. I. Exec: C. H. Faw. (175)

Winston-Salem, N. C., FLAMINGO D. I., Box 2739, Greensboro Rd. Exec: D. L. Drummond. (500)

Winston-Salem, N. C., MIDWAY D. I., P. O. Box 3175. Exec: Max Herman. (200)

Winston-Salem, N C., ROBIN HOOD D. I., 3400 Robin Hood Rd. Exec: C. C. Whickes. (400)

Winston-Salem, N. C., SKYVIEW D. I., Hwy. 421, Konnoak Dr. Exec: Ellis Blumenthal. (686)

Winston-Salem, N. C., WINSTON-SALEM D. I., Box 3636, Cherry St. Ext. Exec: P. G. McGee. (464)

Yadkinville, N. C., YADKINVILLE D. I. Exec: R. E. Zachery. (200)

South Carolina

Abbeville, S. C., SHARON D. I. (Calhoun Falls), P. O. Box 7, Calhoun Fall,. Exec: W. M. Broadwell. (200)

Aiken, S. C., AIKEN D. I., Rt. 2, Hwy. 278. Exec: J. T. Simon. (150)

Aiken, S. C., FOX D. I., P. O. Box 850. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (600)

Aiken, S. C., PARK D. I. Exec: P. H. Riley. (200)

Aiken, S. C., TOWER D. I., P. O. Box 850. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (400)

Allendale, S. C., ALLENDALE D. I. Exec: R. D. White, Jr. (250)

Anderson, S. C., FOX D. I. Exec: Preston Temple. (300)

Anderson, S. C., HI-WAY 29 D. I., Route 29. Exec: Wilby-Kincey Ct., Charlotte, N. C. (402)

Anderson, S. C., SKYWAY D. I., P. O. Box 537, Hwy. 179. Exec: W. E. Osteen, 1011 N. Main St. (372)

Andrews, S. C., DRIVE IN. Exec: R. H. Gibson and S. W. Ackerman. (300)

Bamberg, S. C., BAMBERG D. I. Exec: H. E. Padgett. (200)

Bamberg, S. C., HWY. 78 D. I., Hwy. 78. Exec: J. C. Kearse. (100)

Barnwell, S. C., SOUTH HILL D. I. Exec: Mrs. Sammy Garber. (277)

Beaufort, S. C., BEAUFORT D. I., Hwy. 21. Exec: H. O. Peoples. (200)

Beaufort, S. C., GREENLAWN D. I., Box 289. Exec: D. S. Polk. (200)

Beaufort, S C., ROYAL D. I. Exec: J. W. Millian. (200)

Bennettsville, S .C., BOND'S D. I., Box 129, Hwy. 9. Exec: Walter H. Bonds. (300)

Bennettsville, S. C., STARLITE D. I. Exec: W. C. Evans. (200)

Bishopville, S. C., SILVER STAR D. I. Exec: Dan David. (190)

Camden, S. C., SKYVIEW D. I. Exec: T. L. Little. (180)

Charleston, S. C., FLAMINGO D. I. (North Charleston), P. O. Box 726. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (450)

Charleston, S. C., FOUR MILE RUN D. I. Exec: L. H. Ayers. (175)

Charleston, S. C., MAGNOLIA D. I., Box 223, St. Andrews Parrish. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (510)

Charleston, S. C, NORTH 52 D. I. (North Charleston), P. O. Box 112. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (484)

Cheraw, S. C., VARIETY D. I. Exec: M. L. Workman. (200)

Chesnee, S. C., CHESNEE D. I. Exec: George Ward. (200)

Chester, S. C., CHESTER D. I., Box 435. Exec: W. A. Bagley. (248)

Clinton, S. C., MIDWAY D. I. Exec: R. D. Nance. (264)

Columbia, S. C., ALICE D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (300)

Columbia, S. C., BELT LINE D. I. Exec: C. S. Burts. (330)

Columbia, S. C., NORTH 21 D. I., R.F.D. #1. Exec: T. G. Castles. (337)

Columbia, S. C., SKYWAY D. I., P. O. Box 5191. Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (300)

Columbia, S. C., STARLITE D. I., 4501 Fort Jackson Blvd., Rt. 76. Exec: Wilby-Kincey Ct., Charlotte, N. C. (500)

Columbia, S. C., SUNSET D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (400)

Columbia, S. C., TWILITE D. I. Exec: J. M. Smith. (350)

Conway, S. C., CONWAY D. I., Hwy. 503. Exec: H. V. Hewitt, Tabor City. (160)

Conway, S. C., 501 D. I. Exec: Howard Anderson. (202)

Cowpens, S. C., CHERRY HILL D. I. (Spartansburg), Rt. 1. Exec: H. P. Chapman. (318)

Crescent Beach, S. C., OCEAN BREEZE D. I., Hwy. 17, Box 156. Exec: Everett Olsen. (175)

Darlington, S. C., DUAL HI-WAY D. I., R.F.D. #4. Exec: C. A. Truluck. (155)

Denmark, S. C., VIKING D. I., 7th Ave. and Hwy. 70. Exec: G. Frank Lundy. (150)

Dillon, S. C., HI-WAY 301 D. I., Hwy. 301. Exec: H. A. Anderson. (216)

Easley, S. C., EASLEY D. I. Exec: W. B. Reeves. (450)

Ehrhardt, S. C., EHRHARDT D. I., Hwy. 64. Exec: J. T. Greene, Jr., Branchville. (200)

Elloree, S. C., ELLOREE D. I. Exec: E. B. Mack. (100)

Fairfax, S. C., FAIRFAX D. I. Exec: W. H. Smith. (160)

Finklea, S. C., FINKLEA D. I. Exec: H. M. Sykes. (100)

Florence, S. C., BRIGHT-LEAF D. I., Box 1458, Hwy. 76. Exec: Stanley A. Benson, Ace Camera Supply. (250)

Florence, S. C., CIRCLE D. I. Exec: D. J. Stallworth. (284)

Florence, S. C., PALMETTO D. I., P. O. Box 1461. Exec: Sam Neil. (300)

Gaffney, S. C., GAFFNEY D. I. Exec: Charles Duncan. (248)

Gaffney, S. C., SKYVIEW D. I. Exec: Charles Duncan. (212)

Georgetown, S. C., CAROLINA D. I. (Formerly Hi-Way 17). Exec: M. L. Abrams, Palace Th. (150)

Gloversville. S. C., VALLEY D. I. Exec: Curtis Tarlton and F. W. Free. (305)

Great Falls, S. C., MIDFORD D. I. (Formerly Lucky Star). Exec: L. E. Edwards. (254)

Greenville, S. C., AUGUSTA RD. D. I. Exec: Consolidated Ths., Inc., P. O. Box 2446, Charlotte, N. C. (600)

Greenville, S. C., SKYLAND D. I., Buncombe Rd. Exec: Wilby-Kincey Ct., Charlotte, N. C. (450)

Greenville, S. C., WHITE HORSE D. I. Exec: S. J. Workman. (500)

Greenwood, S. C., AUTO D. I. Exec: A. T. Livingston. (218)

Greenwood, S. C., HI-WAY 25 D. I., Rt. 2, P. O. Box 8. Exec: W. A. Gray. (360)

Greer, S. C., GREER D. I. Exec: H. B. McManus, B. C. Wilson, and Patricia Burns. (320)

Greer, S. C., KING COTTON D. I. Exec: N. E. Belmont (250)

Hampton, S. C., HAMPTON D. I. Exec: J. G. Scott. (200)

Hardeeville, S. C., SOUTH 17 D. I. Exec: W. F. Greene. (158)

Hartsville, S. C., SOUTH 15 D I. Exec: Leland Blackman. (222)

Hemingway, S. C., HEMINGWAY D. I. Exec: Jack Green. (200)

Holly Hill, S. C., HOLLY HILL D. I., Hwy. 15. Exec: L. A. Ayers. (125)

Hollywood, S. C., PALMETTO D. I. Exec: J. G. Scott. (150)

Inman, S. C., MOONLITE D. I. Exec: George Ward, Colonial Th., Chesnee. (192)

Jackson, S. C., SUNSET D. I. Exec: Ray Sanford. (231)

Kershaw, S. C., FOSTER'S D. I. Exec: W. F. Truesdale. (200)

Kingstree, S. C., KINGSTREE D. I. Exec: W. D. and M. W. Funk. (224)

Kingstree, S. C., SKYVUE D. I. (Formerly Faris). Exec: A. C. Holliday. (200)

Lake City, S. C., EAST MAIN D. I. Exec: Wilder S. Funk and James E. Bethune. (100)

Lake City, S. C., LAKE CITY D. I., P. O. Box 164. Exec: Harry Wayne. (100)

Lancaster, S. C., HILLCREST D. I. Exec: A. J. Biggart. (210)

Lancaster, S. C., MOTOR D. I., Hwy. 93. Exec: A. J. Biggart. (344)

Laurens, S. C., LAURENS D. I., Hwy. 221. Exec: Jack Davis. (200)

Lexington, S. C., HALLS D. I. Exec: Harold Hall. (200)

Lexington, S. C., HY-NO. 1 D. I. Exec: W. E. Wessinger. (200)

Manning, S. C., HIWAY 301 D. I. Exec: Leighton Parker. (200)

Marion, S. C., MARION D. I., 911 Evans Rd., Hwy. 501. Exec: R. W. Pigg and A. H. Powell. (175)

Marion, S. C., SWAMP FOX D. I. Exec: H. A. Anderson. (270)

Moncks Corner, S. C., BERKLEY D. I. Exec: W. F. Friddell. (200)

Monetta, S. C., MONETTA D. I. Exec: Sam Bogo. (230)

Mount Pleasant, S. C., SEA BREEZE D. I. Exec: Roy Ferguson and Bill Talbert. (300)

Mullins, S. C., MULLINS 76 D. I. Exec: Howard Anderson, Anderson Th. Co. (250)

Myrtle Beach, S. C., FLAMINGO D. I. Exec: Max Reinhardt, Exhibitors Service, 116 Latta Arcade, Charlotte, N. C. (200)

Myrtle Beach, S. C., MYRTLE BEACH D. I. Exec: Howard Anderson, Anderson Th. Co., Mullins. (250)

Newberry, S. C., CLOVER-LEAF D. I. Exec: R. T. Albright. (200)

New Ellenton, S. C., SKYLINE D. I. (Branchville), Hwy. 19. Exec: J. T. Greene, Jr. (200)

Nichols, S. C., NICHOLS D. I. Exec: Lois Barnes. (150)

Orangeburg, S. C., AZALEA D. I., P. O. Box 47. Exec: Jack Fuller. (400)

Orangeburg, S. C., BON-AIR D. I., Hwy. 42. Exec: B. L. Watkins, Jr., 159 N. Calhoun St. (202)

Orangeburg, S. C., ORANGEBURG D. I., Hwy. 210 Exec: Mrs. Florence Tarlton. (300)

Ridgelands, S. C., RIDGELAND D. I. Exec: Mrs. N. F. Green. (200)

Rock Hill, S. C., AUTO D. I., Rt. 4, Box 251-A. Exec: Stewart-Everett Ths., Charlotte, N. C. (304)

Rock Hill, S. C., FORT-ROCK D. I., Hwy. 21. Exec: Stewart-Everett Ths., Charlotte, N. C. (300)

Rock Hill, S. C., ROCK HILL D. I. Exec: W. M. Patrick. (350)

Saint George, S. C., SKYVUE D. I. Exec: J. T. Greene, Jr. (150)

Saluda, S. C., SALUDA D. I. Exec: J. H. Ridgell. (150)

Seneca, S. C., FOX D. I. Exec: H. and F. Osteen. (290)

Simpsonville, S. C., VILLI INN D. I. Exec: M. B. Goodenough. (200)

Spartanburg, S. C., FOX D. I., P. O. Box 4006. Exec: L. L. Theimer. (388)

Spartanburg, S. C., PINE STREET D. I. Exec: N. E. Belmont. (300)

Spartanburg, S. C., SCENIC D. I., Box 1222. Exec: Wade McManus. (394)

Spartanburg, S. C., STARLITE D. I., Route 7. Exec: T. A. Little. (300)

Summerville, S. C., SUMMERVILLE D. I., Hwy. 64. Exec: L. H. Ayers. (200)

Sumter, S. C., SKYVUE D. I. Exec: J. N. Wallace. (250)

Sumter, S. C., SUMTER D. I., P. O. Box 789, Hwy. 521. Exec: Everett Olsen. (160)

Sumter, S. C., SUNSET D. I., Box 375. Exec: C. B. Andrews. (260)

Taylors, S. C., BELMONT D. I. Exec: N. E. Belmont. (200)

Travelers Rest, S. C., BLUE RIDGE D. I. Exec: A. C. Chastain. (150)

Union, S. C., UNION D. I., Hwy. 92. Exec: R. L. Wilburn. (225)

Union, S. C., SUNSET D. I. Exec: R. L. Wilburn. (200)

Waterboro, S. C., SKYVIEW D. I. Exec: R. C. Saunders. (175)

Walterboro, S. C., WALTERBORO D. I., Hwy. 17. Exec: E. B. Funderburk. (194)

Ware Shoals ,S. C., HILL'S D. I. Exec: Louise Hill. (150)

Ware Shoals, S. C., HONEA-WARE D. I. (Honea Path). Exec: Erve Olson. (220)

West Columbia, S. C., HALL'S D. I. Exec: Harold Hall. (400)

Williamston, S. C., FRIENDLY D. I. Exec: W. M. Broadwell. (150)

Williston, S. C., NEW ERA D. I. Exec: Mrs. Sammy Garber. (200)

Winnsboro, S. C., WINNRIDGE D. I. Exec: W. Brown. (200)

York, S. C., YORK-CLOVER D. I. (Filbert). Exec: John Ritchie. (200)

Tennessee

(NOTE: See also Atlanta and Memphis Territories)

Mountain City, Tenn., MOUNTAINEER D. I. Exec: Claude Hamilton. (200)

CHICAGO TERRITORY

Illinois

(NOTE: See also Des Moines, Indianapolis, and Saint Louis Territories)

Aurora, Ill., HI LITE 30 D. I., U. S. 30, Joliet Rd. Exec: Dr. R. J. Krzysowski, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (740)

Belvidere, Ill., BELMAR D. I. Exec: Belmar Th. Co., and Pete Lindroth. (400)

Bloomington, Ill., PHIL KRON D. I., 1720 S. Main St. Exec: Ken Phillips and Peter Kronas. (510)

Buckley, Ill., BUCKLEY D. I. Exec: Walter E. Swanstrom. (100)

Champaign, Ill., TWIN CITY D. I., N. Market St., Rd. C, P. O. Box 26. Exec: J. W. Barr, Twin City D. I. Th. Corp. (758)

Chicago, Ill., (Posen), ABC D. I. (Blue Island), 2443 Union St. Exec: Midlothian Outdoor, Inc., and Essaness Theatres Corp., 54 W. Randolph St. (800)

Chicago, Ill., CHICAGO'S DOUBLE D. I., Nr. 76th and Mozart. Exec: M and R Amuse. Corp., 1777 Howard St., and S. B. Greiver, 1235 S. Wabash Ave. (1800)

Chicago, Ill., HARLEM AVE. D. I., 4101 N. Harlem Ave. Exec: Essaness Ths. Corp., 54 W. Randolph St. (1030)

Chicago, Ill., SUNSET D. I. (Skokie), Touhy and McCormick Blvd. Exec: Jerome and Raymond Marks, Martin Rosenfield, and S. B. Greiver, 1235 S. Wabash Ave. (1350)

Clinton, Ill., CLINTON OUTDOOR D. I. (Formerly Family). Exec: McCollum Ct. (400)

Crystal Lake, Ill., CRYSTAL D. I. Exec: L. J. DeMarce. (750)

Danville, Ill., DIXIE D. I., 3525 N. Vermillion. Exec: Wisher Myers, Pres., East Side Auto Th. Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (450)

Danville, Ill., ILLIANA D. I. Exec: Wisher Myers, Pres., East Side Auto Th. Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (650)

Danville, Ill., SKY-WAY D. I., 16 Dodge, Georgetown Rd. Exec: Jack Butler, Skyway Th. Co. (600)

Decatur, Ill., DECATUR D. I., 2500 N. Jasper. Exec: Kerasotes Ths. Ct., Springfield. (954)

Decatur, Ill., 121 OUTDOOR D. I. Exec: Kerasotes Ths. Ct., Springfield. (750)

DeKalb, Ill., DE VAL D. I. Exec: Valos Ths. Ct., 220 S. States, Chicago. (448)

Earlville, Ill., 34 D. I. Exec: Charles Dyas. (300)

Elgin, Ill., STAR VIEW D. I., R. #4. Exec: J. H. Reckas, Pres., Starview Outdoor Th., Inc. (500)

Elmhurst, Ill., SKI-HI D. I., Roosevelt and Butterfield. Exec: Louis Jelinek, and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (1000)

Freeport, Ill., COMET D. I., P. O. Box 636. Exec: Robert C. Grant, Pres., Wm. B. Jury, Secy.-Treas., Freeport D. I. Th. Corp. (562)

Galesburg, Ill., GALESBURG D. I. Exec: R. Lawler, 124 High Point Rd., Peoria. (450)

Gibson City, Ill., HARVEST MOON OUTDOOR D. I. Exec: Clifford Orr. (400)

Grays Lake, Ill., FAMILY D. I., Rts. 83 and 120. Exec: Fred W. Dobe, Pres., Grays Lake Outdoor Th., Ltd. (800)

Havana, Ill., HAVANA D. I. Exec: Kerasotes Ths. Ct., Springfield. (400)

Hoopeston, Ill., SKY WAY OUTDOOR D. I. Exec: John Vestal. (400)

Joliet, Ill., BEL-AIR D. I. Exec: H. and E. Balaban Ct., 190 N. State, Chicago, and T. I. Wagner, Pres., Bel Air Th. Co. (1000)

Joliet, Ill., HILL TOP D. I., 1800 Maple Rd. Exec: H. and E. Balaban Ct., 190 N. State, Chicago. (623)

Kankakee, Ill., 54 D. I., Rt. 54, Fair St. and Greenwood. Exec: S. J. Gregory, Alliance Ths. Ct., 231 S. La Salle St., Chicago. (600)

Kankakee, Ill., STARLITE D. I. Exec: Alliance Th. Corp., 231 S. LaSalle St., Chicago 4. (800)

Kewanee, Ill., WANEE D. I. Exec: Rud Lohrenz, Wanee Ths. (375)

La Grange, Ill., 66 D. I., Box 257, Rt. 45, Joliet and La Grange Rd. Exec: Philip Smith Ct., 82 Newberry St., Boston, Mass., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (1156)

La Salle, Ill., IVY-WAY D. I., Route 6. Exec: Alliance Ths. Ct., 231 S. La Salle St., Chicago. (500)

Lincoln, Ill., BENNIS AUTO VUE D. I. Exec: Steve Bennis, Lincoln Th. (300)

Macomb, Ill., FORT D. I., R.F.D. #4. Exec: W. W. Allen, and Earl J. Williams, Earl Th., Knoxville. (350)

McHenry, Ill., SKYLINE D. I. Exec: R. J. Miller, and S .B. Greiver, 1235 S. Wabash Ave., Chicago 5. (750)

Norris, Ill., HILLCREST D. I. Exec: E. Turkey and A. F. Stockburger, Norris Th. Ct., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5. (506)

Oak Lawn, Ill., STARLIGHT D. I., 95th and Ridgeland. Exec: Starlight Drive-In Corp., and Stanford S. Kohlberg. (1200)

Oak Lawn, Ill., TWIN OPEN AIR D. I., 87th and Cicero. Exec: Illinois Outdoor Amuse. Co., and John Murphy, V. P., Loew's Ths., 1540 Broadway, New York 36. (2000)

Oregon, Ill., PINES D. I. Exec: Charles R. Lamb, Oregon Th. (303)

Pekin, Ill., STAR-LITE D. I. Exec: Kerasotes Ths. Ct., Springfield. (700)

Peoria, Ill., BELLEVUE D. I., 100 E. State St. Exec: Abner Klein, General D. I. Th. Co. (996)

Peoria, Ill., PEORIA D. I., W. Glen Ave. Exec: Ralph Lawler, 124 High Point Road. (752)

Pontiac, Ill., PONTIAC D. I. Exec: Ken Phillips. (264)

Prairieville, Ill., MIDWAY D. I. (Dixon). Exec: John Kontos, L. G. Rorer, Prairieville Th. Corp., % Sterling Th., Sterling. (400)

Princeton, Ill., ALEXANDER PARK D. I. Exec: Alger Ct. (400)

Rantoul, Ill., RANTOUL D. I. Exec: Kerasotes Ths. Ct., Springfield. (433)

Rantoul, Ill., TWILIGHT D. I. Exec: Kerasotes Ths. Ct., Springfield. (500)

Riverdale, Ill., HALSTED OUTDOOR D. I. (Formerly Four Screen), 745 W. 138th St. Exec: Essaness Ths. Ct., 54 W. Randolph St., Chicago. (1200)

River Grove, Ill., NORTH AVE. D. I. 1901 River Rd. Nr. North Ave. Exec: Essaness Ths. Ct., 54 W. Randolph St., Chicago. (1000)

Rockford, Ill., LIN'S AIR D. I., R.R. 5, Samuelson Rd. Exec: Howard A. and C. W. Lindroth. (700)

Rockford, Ill., RIVER LANE D. I., Rt. 173, Box 866. Exec: Bill Dubinsky, River Lane Amuse. Corp. (690)

Rockford, Ill., ROBIN D. I. Exec: H. and E. Balaban Ct., 190 N. State, Chicago. (726)

South Chicago Heights, Ill., SAUK TRAIL D. I. (Steger). Exec: Jack Cooney, 7817 East End Ave., Chicago 5. (500)

Streator, Ill., STREATOR D. I. Exec: Alliance Ths., 231 S. La Salle St., Chicago. (482)

Urbana, Ill., WIDE SCREEN D. I. (Formerly Family), Rt. 45. Exec: L. Frank Stewart, Family Amuse. Co., 130 E. Main St., Danville. (564)

Waukegan, Ill., WAUKEGAN OUTDOOR D. I., U. S. 41 and Washington St. Exec: Henry C. Rhyan. (772)

Indiana

(NOTE: See also Cincinnati, Indianappolis and Saint Louis Territories)

Dunlap, Ind., MIDWAY AUTO D. I. (Goshen). Exec: Butler Cole, Midway Drive-In Th. Co., Inc., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (600)

Gary, Ind., Y AND W D. I., Township of Merrillville, Ind. Exec: Gary Outdoor Th. Corp., and Y and W Mgt. Corp., 642 Illinois Bldg., Indianapolis 4. (940)

Griffith, Ind., RIDGE D. I., Ridge Rd. and Cline Ave., Box 175. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (630)

Hammond, Ind., HAMMOND 41 OUTDOOR D. I., Rt. 41, Calumet and Sheffield. Exec: Indiana-Illinois Ths., Inc., 1307 S. Wabash Ave., Chicago 5, Ill. (1000)

Hammond, Ind., MOONLITE D. I. Exec: Peter McKeone, Tri-State Drive-In Corp., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (1000)

La Porte, Ind., DELUXE D. I. Exec: Joe Million and Assoc. (485)

Michigan City, Ind., 212 OUTDOOR D. I., Rts. 12 and 20. Exec: Indiana-Illinois Ths., Inc., 1307 S. Wabash Ave., Chicago 5, Ill. (600)

Osceola, Ind., STAR LITE D. I., Route 20. Exec: The Holly Th. Co., and Louis Cochovety, Avon Ths., South Bend. (400)

Rolling Prairie, Ind., COMET D. I., Route 1. Exec: Keith McDaniel, and Robert Wiley, La Porte D. I. Ths., Inc. (350)

South Bend, Ind., MOONLITE D. I., W. Chippewa Ave., Exec: Louis Cochovety, Avon Ths., and Lewneco D. I. Th. Corp. (1000)

South Bend, Ind., SOUTH BEND AUTO D. I., Rt. 2, 4903 W. Western Ave. Exec: G. Brenner, South Bend Drive-In Th., Inc., and S. B. Greiver, 1235 S. Wabash Ave., Chicago 5, Ill. (650)

CINCINNATI TERRITORY

Indiana

(NOTE: See also Chicago, Indianapolis and Saint Louis Territories)

Lawrenceburg, Ind., POPULAR AUTO D. I., 607 Ridge Ave. Exec: William Statlander. (275)

Vevay, Ind., ALPS D. I. Exec: Charles R. Scott. (400)

Kentucky

(NOTE: See also Atlanta, Indianapolis, Hemphis and Saint Louis Territories)

Albany, Ky., ALBANY D. I. Exec: Cecil Speck, and Wallace Allred. (190)

Ashland, Ky., TRAIL D. I. Exec: Frank Nolan. (500)

Barbourville, Ky., KNOX D. I. Exec: Charles Mitchell. (290)

Beattyville, Ky., SUNSET D. I. Exec: J. M. Mahaffey. (250)

Booneville, Ky., MOONLITE D. I. Exec: Robert R. Reynolds and Carl Barker. (150)

Burnside, Ky., LAKEVIEW D. I. Exec: O. G. Roaden, Loyall. (500)

Carrollton, Ky., RIVERVIEW D. I., Box 179. Exec: R. L. Gaines. (350)

Cold Springs, Ky., PINE 27 AUTO D. I. Exec: Frank Weitzel, 1833 Cordova Ave., North College Hill 24, O. (900)

Columbia, Ky., ADAIR D. I. Exec: O. G. Roaden, Loyall. (200)

Corbin, Ky., CORBIN D. I. Exec: Ray Mullins. (350)

Covington, Ky., DIXIE GARDENS D. I., Dixie Hwy. Exec: Theatre Owners Corp., Cincinnati 10, O. (700)

Cumberland, Ky., AUBURN D. I. Exec: O. G. Roaden, Loyall. (300)

Cynthiana, Ky., MIDWAY D. I. Exec: Louis Marcks. (300)

Danville, Ky., STARLIGHT D. I. Exec: Joe Marshall. (396 and 84 Seats)

Dayston, Ky., RIVERVIEW D. I. Exec: W. S. Bressler. (400)

Elkhorn City, Ky., BREAKS D. I. (Praise). Exec: Dale Ratliff. (235)

Florence, Ky., FLORENCE D. I. Exec: Tom Hill. (600)

Frankfort, Ky., STARWAY D. I., P. O. Box 171. Exec: Morrow and Janecky, and Floyd Morrow. (450)

Fusonia, Ky., LUCINDA D. I. Exec: Floyd Morrow. (281)

Georgetown, Ky., BLUE GLASS D. I., Rt. 25. Exec: Mark Cummins. (400)

Goody, Ky., GOODY AUTO D. I. (Williamson, W. Va.). Exec: H. Bank. (400)

Harlan, Ky., HARLAN D. I. Exec: O. G. Roaden, Loyall. (300)

Harlan, Ky., WAYNE D. I. Exec: William Wright. (600)

Hazard, Ky., GRANDVIEW D. I., Box 705. Exec: Eugene H. Combs, and Richard M. Johnson, Lincoln Hotel Bldg. (300)

Hyden, Ky., HYDEN D. I. Exec: Judy Howard. (200)

Jackson, Ky., MED-O-VUE D. I., P. O. Box 135. Exec: John Robinson. (300)

Jenkins, Ky., CAVALIER D. I. Exec: Roy Letsinger. (380)

Lexington, Ky., CIRCLE 25 D. I. Exec: Mark S. Cummins, 506 E. 4th St., Cincinnati 2, O. (1250 & 520 Seats)

Lexington, Ky., FAMILY D. I. Exec: J. Waller Rodes, Jr., and Frank M. Johnson. (800)

Liberty, Ky., GREEN RIVER D. I. Exec: Ralph Cundiff. (300)

Lily, Ky., RONNIE D. I. Exec: O. G. Roaden, Loyall. (200)

London, Ky., REDA D. I. Exec: Don Reda. (377)

Manchester, Ky., FAMILY D. I., Box 223. Exec: Frank Carnahan, M. C. Hughes, and John E. White. (220)

Maysville, Ky., PARK D. I. (Formerly Riverside). Exec: Asa V. Hay, and Earl Urmston, Box 627. (300)

Middlesboro, Ky., ROSA D. I. Exec: W. Koontz. (400)

Monticello, Ky., STARLITE D. I. Exec: Carl Huff. (300)

Morehead, Ky., DRIVE IN. Exec: Mrs. Walter Caudill. (300)

Mount Sterling, Ky., HIWAY D. I. Exec: Mt. Sterling Amuse. Co., and Nelson Ward, Tri-States Booking Serv., Cincinnati 10, O. (350)

Mount Sterling, Ky., JUDY D. I., Box 432. Exec: Tom Sutton, Judy Drive-In, Inc. (400)

Nicholasville, Ky., LEXINGTON D. I., R. R. #1. Exec: J. E. Head, V.P., J. B. Johnson Ent., Inc. (400)

Paintsville, Ky., CAIN D. I. Exec: W. T. Cain, Jr. (320)

Pendleton, Ky., LAKEVIEW D. I. Exec: William Powers. (200)

Pikeville, Ky., PIKEVILLE D. I., Box 1251. Exec: Childers and Powell, and J. Bressler. (400)

Prestonburg, Ky., CLIFF D. I. Exec: Jack Absher. (350)

Richmond, Ky., REDA D. I., P. O. Box 658. Exec: Don Reda. (400)

Russell Springs, Ky., LAKE TRAIL D. I. Exec: A. V. Luttrell, and Theatre Owners Corp., Cincinnati 10, O. (316)

Somerset, Ky., FAMILY D. I., P. O. Box 151. Exec: Ed Buckner. (400)

Stanford, Ky., DAVIS D. I., Route #4. Exec: H. C. Davis. (200)

Verda, Ky., SKYLINE D. I. Exec: James Booze. (200)

Whitesburg, Ky., ELINDA-ANN D. I. Exec: William W. Wright. (300 and 360 Seats)

Winchester, Ky., SKY-VUE D. I., 156 N. Upper. Exec: J. B. Johnson, and J. E. Head. (350)

Ohio

(NOTE: See also Cleveland and Indianapolis Territories)

Aberdeen, O., RIVERSIDE D. I. Exec: Asa V. Hay. (350)

Allensburg, O., ROSELAWN AUTO D. I. (Lynchburg), Rt. 50. Exec: J. Henry Davidson, Assoc. Ths., Lynchburg. (300)

Amelia, O., STARLITE D. I. (Mt. Holly). Exec: Jerome Jackson. (400)

Athens, O., VALLEY D. I., P. O. Box 42. Exec: Frank Nolan. (500)

Belpre, O., BELPRE D. I., P. O. Box 241. Exec: Theatre Owners Corp., Cincinnati 10. (400)

Byesville, O., C AND B D. I. Exec: George Brown, Brown and Coines. (364)

Cambridge, O., CRUISE IN, Rt. 40 West. Exec: Si Francis, Jr. (350)

Celina (St. Mary's), O., LAKE D. I. Exec: Chakeres Ct., Springfield. (300)

Chesapeake, O., AUTO-IN D. I. (Burlington). Exec: W. E. McCoy. (400)

Chillicothe, O., DEL AR D. I., Box 58. Exec: Fred N. Robertson, and Jack Needham. (400)

Chillicothe, O., MOONLIGHT D. I., E. Main at Renick, Sta. A., Box 847. Exec: B. Cook, E. Payne, and Jack Needham. (450)

Cincinnati 5, O., AUTO-IN D. I., 500 Rosemont Ave. Exec: Jerome J. Kunz, and Theatre Owners Corp., Cincinnati 10. (400)

Cincinnati, O., TWIN D. I., Reading Rd. and Tennessee. Exec: Rube Shor, 1632 Central Pkwy. (1000 and 850 Seats)

Circleville, O., STARLITE D. I. Exec: Harley E. Bennett, 294 Cherry St., Chillicothe, and Jack Needham. (325)

Coal Grove, O., STARLITE D. I. (Sheridan). Exec: Gene Combs. (400)

Coalton, O., TOWN AND COUNTRY D. I., Route 75. Exec: Frank Nolan. (300)

Columbus, O., CCC AUTO D. I., 1395 Harrisburg Pike. Exec: F. Yassenoff, 900 W. 5th Ave., and Harold Schwartz. (750)

Columbus, O., EAST SIDE D. I.,2720 Brentwood Rd. Exec: F. Yassenoff, 900 W. 5th Ave., and Harold Schwartz. (750)

Columbus, O., EAST MAIN D. I., 5000 E. Main St., Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Columbus, O., INTOWN AUTO D. I. Exec: J. J. Shinbach, Suite 1620, 33 N. LaSalle St., Chicago 2, Ill. (1000)

Columbus 12, O., LINDEN AIR D. I., 1126 King Ave. Exec: W. Queen, 2112 Washington Ave. (600)

Columbus, O., NATIONAL D. I., 3750 W. Broad St. Exec: M. Yassenoff, 319 E. Town St., Columbus 15. (750)

Columbus, O., RIVERSIDE D. I. (Dublin). Exec: F. Yassenoff, 900 W. 5th Ave., and Harold Schwartz. (320)

Columbus, O., SCIOTO D. I., 3050 Riverside Dr. Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Columbus, O., SOUTH D. I. Exec: Milton Yassenoff, 319 E. Town St., Columbus 15. (750)

Columbus, O., WEST BROAD D. I., 4050 Broad St. Exec: Mrs. Ethel Miles, Midwest Booking. (750)

Columbus, O., WEST FIFTH AUTO D. I., 400 W. 5th Ave. Exec: F. Yassenoff, 900 W. 5th Ave. (550)

Dayton, O., BELMONT AUTO D. I., 2240 County Line Rd. Exec: Max Milbauer. (700)

Dayton, O., DAYTON D. I., 2700 Valley Pike. Exec: M. J. Gordon. (500)

Dayton, O., MIAMI D. I., 6500 W. 3rd St. Exec: M. J. Gordon. (690)

Dayton, O., SALEM D. I., 3607 Salem Ave. Exec: Fred Krimm. (400)

Dayton, O., SHERWOOD TWIN D. I., 5501 W. 3rd. Exec: Sam and Allen Levine. (1200)

Dayton, O., SKYLINE D. I., P. O. Box 25, Sta. D. Exec: W. C. Walters, Pres., Skyline, Inc., Lou Wetzel. (750)

Dent, O., DENT AUTO D. I., Harrison Ave. Exec: Jerome J. Kunz, and Theatre Owners Corp., Cincinnati 10. (500)

Eaton, O., CRUISE-IN. Exec: L. Clemmer. (400)

Excello, O., DIXIE CRUISE-IN (Middletown). Exec: Rube Shor, 1632 Central Pkwy., Cincinnati. (400)

Fairborn, O., SKYBORN D. I., P. O. Box 225, Haddix Rd. Exec: Del Kinsel, and John Gregory. (450)

Forestville, O., FOREST D. I., 7940 Beechmont. Exec: R. Shor, 1632 Central Pkwy., Cincinnati. (600)

Frederick, O., MILLERS GROVE D. I. (West Milton), R.F.D. #6. Exec: Miller Bros. (444)

Gallipolis, O., KANAUGA D. I. Exec: Harry Wheeler. (400)

Greenville, O., SPEEDWAY AUTO D. I. Exec: Fred Krimm. (300)

Hamilton, O., ACME AUTO D. I. (Stockton), Old Oxford Rd. Exec: Marc Cummins, and Ben Cohen. (400)

Hamilton, O., HOLIDAY AUTO D. I. Exec: Ben Cohen. (400)

Hamilton, O., RAMONA D. I. Exec: George Turlukis. (900)

Hamilton, O., VALLEY D. I. Exec: George Turlukis. (1150)

Jackson, O., GROVE AUTO D. I. Exec: Harold Stegmiller, and Jack Needham. (140)

Lancaster, O., CITY D. I., P. O. Box 188. Exec: Frank Nolans. (480)

Lancaster, O., SKYVIEW D. I., E. Main Pike. Exec: Carlos Crumm, and Jack Needham. (400)

Lebanon, O., OLD FORT D. I. Exec: J. H. Davidson, Assoc. Ths. (314)

Logan, O., HOCKING D. I. Exec: Chakeres Ct., Springfield. (400)

Lucasville, O., SCIOTO BREEZE D. I. Exec: Al Bourdouris, and Paul Sigler. (350)

Marietta, O., STARLITE D. I., Box 514. Exec: Frank Nolan. (604)

Miamisburg, O., CRUISE-IN, S. Dixie Hwy. Exec: L. Clemmer. (350)

Milford, O., MOTOUR-IN, Chillicothe Pike, Box 236. Exec: Frank Yassenoff, 900 W. 5th Ave., Columbus. (600)

Montgomery, O. MONTGOMERY D. I., Montgomery Pike. Exec: Phil Smith Ct., 832 Newberry St., Boston, Mass., and Theatre Owners Corp., Cincinnati 10. (600)

Mount Healthy, O., MT. HEALTHY D. I. (Cincinnati), 900 Compton. Exec: Frank Yassenoff, 900 W. 5th Ave., Columbus. (400)

Newark, O., HEATH D. I. Exec: Tri-State Th. Serv., 1632 Century Pkwy., Cincinnati 10. (400)

Newark, O., VALLEY D. I., P. O. Box 790, N. 21st St. Exec: Floyd Price, and Tri-State Th. Serv., Cincinnati 10. (400)

New Chicago, O., SUNSET CRUISE-IN (Dayton), Germantown Pike. Exec: M. Blachschleger. (450)

Peebles, O., MOUND D. I. Exec: J. H. Davidson, Associated Ths., Lynchburg. (200)

Piketon, O., PIKETON D. I. Exec: Tri-State Th. Serv., 1632 Central Pkwy., Cincinnati 10. (300)

Piqua, O., PIQUA D. I., R. R. 3, Box 58A. Exec: Fred Krimm. (400)

Roseville, O., STARLIT D. I. (Six Mile Turn). Exec: Dorman Law. (340)

Saint Henry, O., STARLITE D. I. (Cassella). Exec: Feltz Bros. (300)

Sardis, O., JOHNSON'S D. I. Exec: Gray Barker, Box 2228, Clarksburg, W. Va. (200)

Sidney, O., SIDNEY D. I. Exec: V. Schwartz. (350)

South Zanesville, O., SKYWAY D. I., R. D. #1. Exec: Roy Waller, C. E. Huprich, and Tri-State Th. Serv., Cincinnati 10. (650)

Springfield, O., MELODY CRUISE-IN, National Hwy., E. Rt. 40 Exec: Chakeres Ct. (1000)

Springfield, O., NEW MOON D. I. (Formerly Skyhigh). Exec: Sam Levin. (400)

Springfield, O., STARDUST D. I. Exec: Sam Levin. (550)

Troy, O., TROY DIXIE D. I. Exec: Moe and Elizabeth Potasky. (400)

Urbana O., SALEM AUTO D. I. Exec: Guy Spangler, and Theatre Owners Corp., Cincinnati 10. (350)

Wapakoneta, O., MIDWAY D. I. (Moulton). Exec: Theodore Christ. (300)

Washington Court House, O., CCC D. I. (Jasper Mills). Exec: J. Henry Davidson, Assoc. Ths., Lynchburg. (450)

Waverly, O., ATOMIC D. I. Exec: J. H. Davidson. (400)

Waverly, O., WAVERLY D. I. (Formerly H and S). Exec: Al Boudouris, and Paul Sigler. (450)

West Portsmouth, O., SUNSET D. I., P. O. Box 844. Exec: W. J. Goldcamp. 400)

West Union, O., PANHANDLE D. I. Exec: William Hitchcock. (300)

Wheelersburg, O., DRIVE IN, Rt. 52. Exec: John L. Carey. (500)

Wilmington, O., WILMINGTON D. I. Exec: Chakeres Ct., Springfield. (500)

Woodlawn, O., WOODLAWN D. I. (Cincinnati), 10540 Springfield Pike. Exec: Nat Kaplan. (550)

Worthington, O., NORTH-HI D. I. (Columbus). Exec: Ethel Miles, Midwestern Booking Agency. (700)

Xenia, O., OLD TOWN AUTO D. I. Exec: Frank Yassenoff, 900 W. 5th Ave., Columbus. (425)

Xenia, O., XENIA D. I. Exec: Frank Yassenoff, 900 W. 5th Ave., Columbus. (400)

Zanesville, O., MAPLE AUTO D. I., 2800 Maple Ave., Exec: Tri-State Booking Service. (550)

West Virginia

(NOTE: See also Pittsburgh and Washington Territories)

Beckley, W. Va., BECKLEY OPEN AIR D. I. Exec: F. Clemens, and Tri-State Booking Service, Cincinnati, O. (350)

Bluefield, W. Va., SKYWAY D. I. Exec: S. J. Switow, M. Switow and Sons Ent., Louisville, Ky., and Tri-State Booking Service, Cincinnati, O. (600)

Branchland, W. Va., GUYAN D. I. Exec: Mrs. D. Brown. (240)

Ceredo, W. Va., CEREDO D. I. Exec: Abe Hyman and I. Silverstein. (600)

Charleston, W. Va., FRONTIER D. I. Exec: Frank Weitzel, 1833 Cordova Ave., North College Hill 24, O. (420)

Charleston, W. Va., OWENS D. I. Exec: Fred Helwig. (450)

Crab Orchard, W. Va., CRAB ORCHARD D. I. (Beckley), P. O. R.F.D., Harvey. Exec: E. R. Harvey, and Theatre Owners Corp., Cincinnati 10, O. (400)

Cucumber, W. Va., CUCUMBER D. I. Exec: J. L. Koger. (110)

Elkview, W. Va., ELKVIEW D. I. Exec: Ray Phelan, Elk Valley Ths., Clendenin. (480)

Ellensboro, W. Va., RITCHIE D. I. Exec: R. Vogeding. (112)

Gassaway, W. Va., ELK D. I. Exec: Gray Barker, Box 2228, Clarksburg. (100)

Glen Jean, W. Va., MOUNTAIN AIR D. I. Exec: E. J. Buffa. (350)

Herndon, W. Va., MULLENS D. I. Exec: Theatre Owners Corp., 1635 Central Pkwy., Cincinnati 14, O. (200)

Hines, W. Va., STARLITE D. I. Exec: Mary Dollinger. (200)

Hinton, W. Va., GREENBRIER D. I. Exec: B. M. Moye. (175)

Hugheston, W. Va., ARENA D. I. Exec: Ray Woodard, Kayton Amuse. Co., 1223 Liberty St., Franklin, Pa. (375)

Huntington, W. Va., EAST OUT DOOR D. I. Exec: A. Hyman, and J. S. Silberstein. (1077)

Iaeger, W. Va., IAEGER D. I. Exec: Douglas Whaley. (142)

Lewisburg, W. Va., WALNUT HILL D. I., Route 219. Exec: Theatre Owners Corp., Cincinnati, O. (400)

Logan, W. Va., MONITOR D. I. Exec: Frank Weitzel, 1833 Cordova Ave., North College Hill 24, O. (500)

Madison, W. Va., MADISON D. I. Exec: W. B. Rose, and Gray Barker, Box 2228, Clarksburg. (300)

Man, W. Va., MAN D. I. Exec: A. W. Cook. (400)

Mason City, W. Va., MASON CITY D. I. Exec: Ross Filson. (500)

Meadow Bridge, W. Va., N AND R D. I. Exec: N. Garten. (125)

Nettie, W. Va., NETTIE D. I. (Quinwood). Exec: A. K. O'Dell. (210)

Oak Hill, W. Va., SKYLINE D. I. Exec: J. C. Newbold, and Don Keesling. (480)

Parkersburg, W. Va., JUNGLE D. I. (Waverly), Rt. 1. Exec: Carl Westbrook. (234)

Parkersburg, W. Va., MUR D. I. (Vienna), 3930 Murdock Ave. Exec: Jur Ths. Ct. (550)

Parkersburg, W. Va., STARLITE D. I., Pike St. and Gibson Rd. Exec: Jur Ths. Ct. (600)

Pineville, W. Va., PINEVILLE D. I. Exec: Charles Cassinelli. (300)

Rand, W. Va., TRAIL D. I. Exec: Ray Phelan, 410 49th St., S.E., Charleston 4. (600)

Richwood, W. Va., RICHWOOD D. I. Exec: Gray Barker, Box 2228, Clarksburg. (200)

Ripley, W. Va., DIXIE D. I. Exec: Gray Barker, Box 2228, Clarksburg. (200)

Rupert, W. Va., SUNSET AUTO D. I. (East Rainelle). Exec: R. A. Callison, and Theatre Owners Corp., Cincinnati 10, O. (290)

Saint Albans, W. Va., VALLEY D. I., Winfield Rd. Exec: R. Shor, F Price, and E. Custer, and Tri-State Booking Serv., Cincinnati 10, O. (600)

Spencer, W. Va., AIR PORT D. I. Exec: Joseph Giboney. (200)

Welch, W. Va., STARLAND D. I. Exec: Lloyd E. Rogers. (400)

White Sulphur Springs, W. Va., STARLITE D. I. Exec: Gray Barker, Box 2228, Clarksburg. (200)

Whitesville, W. Va., JUR D. I. Exec: Jur Th. Ct., Parkersburg. (400)

CLEVELAND TERRITORY

Ohio

(NOTE: See also Cincinnati and Indianapolis Territories)

Akron, O., ASCOT D. I. (Cuyhoga Falls), Rt. 8, 511 Tuscaloosa Ave. Exec: Edward J. Rabb, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Akron, O., GALA D. I. (Sawyerwood), 224 E. Waterloon Dr., Box 239, R.D. #2. Exec: James Ramicone, Box 239, R.D. #2, Akron 12. (600)

Akron, O., STARLIGHT D. I., 511 W. Tuscaloosa. Exec: Edward J. Rabb, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Alliance, O., PARK D. I., Rt. 62, E. State Rd. Exec: M. Barck, 1529 Glenmont Ave., Cleveland, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (430)

Andover, O., SHANE D. I. Exec: Peter Wellman, Girard. (200)

Arlington, O., AMANDA AUTO D. I., Rt. 1. Exec: R. Dyer, R. D. #1, Box 74-B. (250)

Ashland, O., ASHLAND D. I., Box 148, Rt. 250. Exec: W. E. Eckhard. (400)

Ashtabula, O., SKYWAY D. I. (Geneva), R. D. #2, Box 1658. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (350)

Barberton, O., MAGIC CITY D. I., R. D. #7. Exec: Lou Ratener. (400)

Barnesville, O., LEATHERWOOD D. I. Exec: V. Grindstaff and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Belle Center, O., BELLE CENTER D. I. Exec: Dale Elleman. (370)

Bellefontaine, O., DRIVE IN. Exec: Dale Elleman. (370)

Blaine, O., SUPER 40 D. I., Route 40. Exec: C. G. Velas, Capitol Th., Bellaire. (450)

Bryan, O., HUB D. I. Exec: John P. Hagerman, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (418)

Bucyrus, O., TRI CITY D. I., Hwys. 30 and 58, P. O. Box 6. Exec: Olen Martin, Jr. (660)

Cadiz, O., CADIZ D. I. Exec: William Wilson, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Canton, O., EAST 30th OUTDOOR D. I. Exec: N. Schultz, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (800)

Chardon, O., HAZELWOOD D. I. Exec: C. Brinkman, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Cleveland, O., AUTO D. I. (Brookpark), 11211 Brookpark Rd. Exec: M. Gordon, and Ohio Drive-In Co. (700)

Cleveland, O., EAST SIDE D. I. (North Randall), Hwy. 8, Northfield Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Cooperative Ths. of Ohio, 2108 Payne Ave. (600)

Cleveland 22, O., MEMPHIS RD. D. I., 3653 Lynnefield Dr. Exec: Paul Winter, and Cooperative Ths. of Ohio, 2108 Payne Ave. (650)

Cleveland, O., MILES D. I., 19001 Miles Ave. Exec: Ohio Drive-In Co., and M. Gordon. (1000)

Cleveland, O., WEST SIDE D. I. (Brookpark), Brookpark and Riverside Drive. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Cooperative Ths. of Ohio, 2108 Payne Ave. (600)

Copley, O., MONTROSE D. I. (Akron R. D. 7, Box 309), #18 Medina-Akron Rd. Exec: Lou Ratener and Lawrence Tyrell, 185 Avondale Rd., Akron. (500)

Coshocton, O., ELM LANE D. I. Exec: George Manos. (750)

Coshocton, O., TRI-VALE D. I. Exec: Frank Gilfilen, Robert Phillips, and H. Horstemeier, 2108 Payne Ave., Celveland. (500)

Creston, O., CRESTON D. I., Route 3. Exec: T. McKnight. (250)

Defiance, O., DEFIANCE D. I., Rt. 66, Box 33. Exec: Mallers Ths. of Indiana, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Delaware, O., KINGMAN D. I. Exec: H. Horstemeier, 2108 Payne Ave., Cleveland. (520)

Delphos, O., VAN DEL D. I., Hwy. 30. Exec: E. L. Staup. (500)

East Lake, O., EAST LAKE D. I. Exec: Leo and Sam Greenberger. (950)

East Liverpool, O., SKYVIEW AUTO D. I., Hwy. 170, Box 121. Exec: Lawrence Black, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

East Liverpool, O., SUPER 30 D. I. Exec: J. G. Osborne, West Va. Theatrical Ents., 1015 Main St., Wheeling, W. Va. (600)

East Palestine, O., MIDWAY D. I. Exec: George Manos, Manos Amuse. Co., 202 Fourth St., Toronto. (500)

Elyria, O., TOWER D. I., 2301 Lake Ave. Exec: A. Boudouris. (500)

Findlay, O., FINDLAY D. I., W. Sandusky Rd. Exec: J. Knight, 509 E. Main St., Columbus. (500)

Fostoria, O., STARLITE D. I., U. S. 23 South. Exec: Virgil Pfau and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (492)

Fremont, O., FREMONT D. I., 122 S. Wilson Ave. Exec: Mosser Bros., 122 S. Wilson Ave. and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Harrisburg, O., MID CITY D. I., R. D. Louisville. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (635)

Independence, O., CLOVERLEAF D. I., 3600 Ridge Rd. Exec: Allen Shaw. (700)

Kenton, O., HI ROAD D. I., #68, P. O. Box 72. Exec: Robert W. Hipp. (400)

Kingsville, O., MIDWAY AUTO D. I. Exec: Carl Kessler, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Lima, O., GLORIA D. I., R. D. #1. Exec: N. Shultz, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (450)

Lima, O., LIMA D. I., Hwy. 25, R.D. #1. Exec: N. Shultz, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Lima, O., SHARON D. I., R. D. #1. Exec: N. Shultz, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (650)

Lima, O., SPRINGBROOK D. I., P. O. Box 266. Exec: Jack Armstrong Ct., Bowling Green. (700)

Lorain, O., LORAIN D. I., Rt. #2. Exec: N. Shultz, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Madison, O., SKYWAY D. I., Rt. #20. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (300)

Mansfield, O., MIDWAY D. I., Rt. #42 and N. Exec: Allen Shaw. (350)

Mansfield, O., SPRINGMILL D. I. R. D. #1. Exec: M. Mosser, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Mansfield, O. SUNSET D. I., Rt. 30, R. D. #6. Exec: Harold Nussbaum, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (500)

Marion, O., NORTH D. I., Hwy. 23. Exec: Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Marion, O., SOUTH D. I. Exec: Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (630)

Massillon, O., STARK D. I., 2416 Lincoln Way E. Exec: W. N. Skirball, Skirball Bros., Keith Bldg., Cleveland. (600)

Maumee, O., MAUMEE D. I., Rt. 20. Exec: A. Wintner, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (800)

Mentor, O., MENTOR D. I., Rt. #20. Exec: J. Shulman, Cleveland. (400)

Millbury, O., WOODVILLE D. I., Rt. #120. Exec: A. M. DeHaven, River Rd., U. S. #24, Waterville (350)

Morristown, O., MORRISTOWN D. I., Rt. #40. Exec: C. Velis. (354)

Mount Vernon, O., KNOX AUTO D. I., #13, Box 31. Exec: R. Sturgis, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (800)

Newcomerstown, O., STARLIGHT D. I., Rt. 36. Exec: George Manos, Manos Amuse. Co., 202 Fourth St., Toronto. (300)

New Philadelphia, O., TWILIGHT D. I. (Goshen Township), Hwy. 250, Box 111, Urichsville. Exec: A. K. Veach, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (225)

North Canton, O., NORTH CANTON D. I., Rt. 3, Cleveland Ave. N.W. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (538)

Northfield, O., NORTHFIELD STAR D. I., Rt. 8. Exec: Ed Buczynski, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (350)

Norwalk, O., STARVIEW D. I., Rt. #20. Exec: J. Steel, Oberlin. (500)

Obelin, O., CARLISLE D. I. (Elyria), Rt. #20, P.O. Box 639. Exec: John Tender, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Ottawa, O., LITTLE FLOWER D. I. Exec: Al Boudouris, Toledo. (300)

Painesville, O., BELVEDERE D. I. Exec: John Leone, 444 N. State. (300)

Plymouth, O., SUNSET D. I. Exec: Ed Ramsey. (450)

Portage, O., PORTAGE SKYLIGHT D. I., Rt. #25. Exec: Jack Armstrong Ct., Bowling Green. (500)

Port Clinton, O., OTTAWA D. I. Exec: C. E. Maracek, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (300)

Ravenna, O., MIDWAY D. I. Exec: Paul Vogel, Wellsville. (525)

Rayland, O., RIVERSIDE D. I., Rt. #7. Exec: J. B. Gardner. (390)

Russells Point, O., EAST LAKE D. I. Exec: Jack Gutilla, Box 507, Indian Lake. (400)

Saint Clairsville, O., SHIA'S D. I., Rt. #40. Exec: S. D. Shia, Old Trail Th., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (400)

Salem, O., SALEM D. I. Exec: Vogel Bros., Wellsville. (456)

Sandusky, O., SANDUSKY D. I., Rt. #2. Exec: Earl Seitz, Seltz Amuse. Co., State Th. (500)

Steubenville, O., FAMILY D. I., Rt. #7. Toronto Rd. Exec: Marvin O. White, American Amuse. Co. (450)

Steubenville, O., SUNSET AUTO D. I., Sunset Blvd. Ext. Exec: Marvin O. White, American Amuse. Co. (500)

Strasburg, O., LYNN D. I., Rt. 250, Box 187. Exec: Roy McCombe and W. B. Franklin, and H. Horstemeier, 2108 Payne Ave., Cleveland. (400)

Talmadge, O., EAST D. I., P. O. Box 1955. Exec: R. Postma, Rialto Th., Akron, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (680)

Tiffin, O., TIFFIN D. I., R. R. #3. Exec: Brinkman and Shults, and H. Horstemeier, 2108 Payne Ave., Cleveland. (275)

Toledo, O., JESSE JAMES D. I. Exec: E. Waltres, Jack Armstrong and Harold James. (1100)

Toledo, O., MIRACLE MILE D. I. Exec: A. Boudour's. (1500)

Toledo, O., PARKSIDE D. I., 5855 Telegraph Rd. Exec: J. Dempsey, 4120 Bowen Rd., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (622)

Toledo, O., STARLIGHT D. I. Exec: J. Dempsey, 4120 Bowen Rd., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (1200)

Toledo, O., TELEGRAPH D. I., Telegraph and Alexis. Exec: J. Dempsey, 4120 Bowen Rd., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (714)

Toledo, O., TOLEDO D. I., #223, R. R. #8. Exec: M. Gordon, and Ohio Th. Co. (700)

Upper Sandusky, O., TRAIL D. I., Route 23. Exec: Leo Jones. (300)

Van Wert, O., LINCOLN D. I., R. R. #4. Exec: Walter Burget. (434)

Wadsworth, O., BLUE SKY D. I., Rt. 224. Exec: E. Seitz, Box 550, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (200)

Warren, O., ELM ROAD D. I., Rt. 5. Exec: Stephen Hreno, and Ohio Th. Mgt. Co. of Cleveland. (350)

Warren, O., HOWLAND D. I. Exec: D. Albright, 442 Molane Ave., and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (520)

Warren, O., SKYWAY D. I. Exec: R. H. Hanley, and H. Horstemeier, 2108 Payne Ave., Cleveland. (300)

Warren, O, SUPER 45 D. I. 974 Tod Ave., S.W. Exec: M. J. Frankee. (250)

Wauseon, O., STAR AUTO D. I. Exec: D. Lee McLain, and Cooperative Ths. of Ohio, 2108 Payne Ave., Clevaland. (300)

Wickliffe, O., EUCLID OUTDOOR D. I., Rt. 20, 28737 Euclid Ave. Exec: Horace Abrams, and Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (700)

Wooster, O., SKYLINE D. I., Rt. #30. Exec: C. Settos, State Th., Marion. (300)

Youngstown, O., NORTH SIDE D. I., Rt. #90. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland, and Newport Amuse. Co. (500)

Youngstown, O., SKYHIGH D. I. (Lowellville), R. D. #1. Exec: Cooperative Ths. of Ohio, 2108 Payne Ave., Cleveland. (620)

Youngstown, O., SOUTH SIDE D. I., 15 Illinois Ave. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (500)

Youngstown, O., WEST SIDE D. I., 4442 Southern Blvd. Exec: Meyer Fine, Associated Ths. Ct., 21st and Payne Ave., Cleveland. (450)

DALLAS TERRITORY

Louisiana

(NOTE: See also New Orleans Territory)

Vivian, La., GAY D. I. Exec: W. Bagwell. (200)

Vivian, La., WAKEA D. I. Exec: L. W. Watts, W. and K. Ths., Box 347, Oil City. (200)

New Mexico

(NOTE: See also Denver and Salt Lake City Territories)

Alamogordo, N. M., STARLITE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (300)

Alamogordo, N. M., YUCCA D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (450)

Anthony, N. M., JOY D. I. Exec: H. R. Poor. (312)

Belen, N. M., ZIA D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Carlsbad, N. M., CORRAL D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (400)

Carlsbad, N. M., FIESTA D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (450)

Clovis, N. M., LA FONDA D. I., Box 191. Exec: Lloyd Franklin. (598)

Clovis, N. M., YUCCA D. I., Box 191. Exec: W. O. Bearden and Lloyd Franklin. (350)

Deming, N. M., MIMBRES D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (200)

Eunice, N. M., STAR D. I. Exec: C. C. Caldwell. (400)

Gallup, N. M., YUCCA D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (249)

Hobbs, N. M., EAGLE D. I., P. O. Box 1358. Exec: Tom Griffing, and E. L. Williamson, All States Ths., Inc., 1833 S. Treadaway Blvd., Abilene, Tex. (1000)

Hobbs, N. M., SKYVIEW D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (350)

Hobbs, N. M., TRADEWIND D. I., P. O. Box 1418. Exec: O. O. Knotts. (500)

Hollywood, N .M., HOLLYWOOD D. I. Exec: H. H. Daniels. (100)

Jal, N. M., PANTHER D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Lovington, N. M., YUCCA D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (201)

Portales, N. M., CRAWLEY'S D. I. Exec: Perry Crawley. (200)

Portales, N. M., VARSITY D. I., Elinda Hwy. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (250)

Roswell, N. M., BALL-O-JAK D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Roswell, N. M., JINGLE BOB D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Roswell, N. M., STARLITE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas, Tex. (500)

Ruidoso, N. M., MOUNTAIN VIEW D. I. Exec: William Eiland. (250)

Tatum, N. M., CAYOTE D. I. Exec: Estes Burgamy. (250)

Oklahoma

(NOTE: See also Oklahoma City Territory)

Durant, Okla., SHIP D. I. Exec: Lillian B. Lutzer, Savage Th. (480)

Durant, Okla., SKY VUE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

McAlester, Okla., HIGHWAY 270 D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

Muskogee, Okla., P AND M D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (400)

Muskogee, Okla., 64 D. I., Box 1554. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, Tex. (503)

Texas

(NOTE: See also Denver and Oklahoma City Territories)

Abernathy, Tex., ANTELOPE D. I. Exec: George Reed. (175)

Abilene, Tex., CHIEF D. I. Exec: Clarence McNeil. (400)

Abilene, Tex., CRESCENT D. I. Exec: Mrs. O. M. Kirkeby. (400)

Abilene, Tex., ELMWOOD D. I., Hwy. 158. Exec: Mrs. R. N. Likens, Windsor Hotel. (325)

Abilene, Tex., KEY CITY D. I., Box 1358. Exec: Tom Griffing, and E. L. Williamson, All States Ths., Inc., 1833 S. Treadaway Blvd. (600 and 300 Seats)

Abilene, Tex., PARK D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (475)

Abilene, Tex., TOWER D. I., Rt. 3, Box 61. Exec: Mrs. O. M. Kirkeby. (400)

Albany, Tex., ALBANY D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (100)

Alice, Tex., BUCKHORN D. I., Hwy. 44, P. O. Box 1170. Exec: H. C. Gunter. (300)

Alice Tex., COYOTE 7 D. I. Exec: H. C. Gunten. (300)

Alice, Tex., RANCHO D. I. Exec: Juan Solis, Solis Brothers. (500)

Alpine, Tex., LOBO D. I. Exec: Fred Jack. (300)

Alpine, Tex., TWIN PEAK D. I. Exec: Joseph T. Davidson. (300)

Alvin, Tex., ALVIN D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (350)

Amarillo, Tex., PALO DURO D. I., Canyon Hwy. and Georgia, Box 2388. Exec: J. Fagan, and H. Wilson, and Charles W. Weisenberg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (576 and 100 Seats)

Amarillo, Tex., SKYWAY D. I. Exec: H. Wilson, and J. Fagan. (500)

Amarillo, Tex., SUNSET D. I., West of City. Exec: W. O. Bearden, P. O. Box 748. (400)

Amarillo, Tex., TASCOSA D. I. Exec: W. O. Bearden, P. O. Box 748. (600)

Amarillo, Tex., TRAIL D. I., Hwy. 66. Exec: W. O. Bearden, P. O. Box 748. (400)

Amarillo, Tex., TWIN D. I. Exec: Charles Weisenburg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (1000)

Amherst, Tex., 84 D. I. Exec: Lloyd Hutchins. (175)

Andrews, Tex., MUSTANG D. I. Exec: Wallace Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (260)

Angleton, Tex., ROUND-UP D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (350)

Anson, Tex., TWILITE D. I., Box 472. Exec: Will Pence, Lyric Th. (300)

Aransas Pass, Tex., TARPON D. I. Exec: E. F. Falgont. (350)

Aransas Pass, Tex., TRAIL D. I. Exec: E. F. Falgont. (300)

Argyle, Tex., COLONIAL D. I. Exec: Debbs Reynolds. (350)

Arlington, Tex., ARLINGTON D. I. Exec: Charles W. Weisenburg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (600)

Aspermont, Tex., KING D. I. Exec: Pete Blackshear. (272)

Athens, Tex., STAR VUE D. I. Exec: Debbs Reynolds. (250)

Austin, Tex., BURNETT D. I., Box 332. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Austin, Tex., CHIEF D. I., 5601 Dallas Hwy., Box 332. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (814)

Austin, Tex., DELWOOD D. I. Exec: Eddie Joseph, Yank Th. (600)

Austin, Tex., LONGHORN D. I., 108 Anderson Lane. Exec: Lin Harrington. (320)

Austin, Tex., MONTOPOLIS D. I., Airport Bldg., P. O. Box 1015. Exec: Eddie Joseph, Yank Th. (400)

Austin, Tex., NORTH D. I., 6714 Dallas Hwy., P. O. Box 1015. Exec: Eddie Joseph, Yank Th. (350)

Austin, Tex., SOUTH D. I., 3900 S. Congress, P. O. Box 1015. Exec: Eddie Joseph, Yank Th. (400)

Azle, Tex., EAGLE D. I. Exec: A. L. Watson. (270)

Baird, Tex., ROUND-UP D. I. Exec: Frank Gardner. (200)

Ballinger, Tex., HILLCREST D. I. Exec: Scales and Scales. (400)

Ballinger, Tex., HORSESHOE D. I., P. O. Box 350. Exec: R. T. Hall. (300)

Bandera, Tex., TRAIL D. I. Exec: Charles Knauf. (200)

Bay City, Tex., BAY D. I. Exec: Robin Frels, Frels Ths., Victoria. (326 and 150 Seats)

Haytown, Tex., DECKER D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood, Dallas. (408)

Beaumont, Tex., CIRCLE D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (550)

Beaumont, Tex., PYRAMID D. I., P. O. Box 3228. Exec: Millard Jones. (600)

Beaumont, Tex., SOUTH PARK D. I., P. O. Box 3191. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (600)

Beeville, Tex., BRONCO D. I., Box 271. Exec: Hall Industries. (375)

Beeville, Tex., TEXAS D. I., Box 271. Exec: Hall Industries. (375)

Belton, Tex., HARDIE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (250)

Big Lake, Tex., SHOOTING STAR D. I. Exec: Noble Holt, and In-Dex, 2013½ Young St., Dallas. (300)

Big Spring, Tex., JET D. I., San Angelo Hwy. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (500)

Big Spring, Tex., TERRACE D. I., Hwy. 84. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Blackwell, Tex., RANEY D. I., Box 35. Exec: Henry C. Raney. (100)

Bonham, Tex., BONHAM D. I. Exec: Cole Ths. (302 and 54 Seats)

Bowie, Tex., TRAIL D. I. Exec: C. E. Campbell. (300)

Brady, Tex., SCENIC D. I. Exec: Mrs. O. M. Kirkeby. (300)

Breckenridge, Tex., CORRAL D. I., Rt. 2. Exec: William Creagh. (330)

Breckenridge, Tex., TRAIL D. I., P. O. Box 289. Exec: William Creagh. (300)

Brenham, Tex., STARLITE D. I. Exec: C. B. Schroeder. (200)

Bridgeport, Tex., LAKE D. I. Exec: Stephen Curley. (200)

Brownfield, Tex., RIG D. I. Exec: Mrs. W. T. Howzie, Regal Th. (300)

Brownfield, Tex., RUSTIC D. I., Rt. 18. Exec: Mrs. W. T. Howzie, Regal Th. (500)

Brownsville, Tex., CHARRO D. I., 2340 Boca Chica Hwy., Box 1452. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (548)

Brownsville, Tex., STAR D. I., Hwy. 77. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (370)

Brownsville, Tex., FIESTA D. I. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (500)

Brownwood, Tex., BLUFFVIEW D. I. Exec: J. Needham. (500)

Brownwood, Tex., CAMP BOWIE D. I. Exec: J. Needham. (356)

Brownwood, Tex., SUNSET D. I., Hwy. 84, P. O. Box 564. Exec: F. S. Schwab and Mrs. Denise Lucht. (300)

Bryan, Tex., SKYWAY D. I., Hwy. 6. Exec: Jack A. Farr. (500)

Burkburnett, Tex., TEX-OK D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (295)

Caldwell, Tex., BELL D. I., Hwy. 36. Exec: Mrs. C. W. Matson, Dixie Th., Rockdale. (300)

Cameron, Tex., 77 D. I. Exec: W. A. Smith. (300)

Carrizo Springs, Tex., WINTER GARDEN D. I. Exec: Andrew Majek. (300)

Carthage, Tex., PANOLA D. I. Exec: Nelson Haney. (400)

Center, Tex., APACHE D. I. Exec: George Smith. (500)

Childress, Tex., CAR-VUE D. I. Exec: Phipps and Layton. (300 and 42 Seats)

Cisco, Tex., JOY D. I., P. O. Box 1240. Exec: H. & B. Ths., Inc., % Strand, Dallas. (250)

Clarksville, Tex., RED RIVER D. I. Exec: Englebrecht and Wolfe, and R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Cleburne, Tex., CHIEF D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Cleveland, Tex., TWIN RANCH D. I. Exec: Glenn McLain. (300)

Clute, Tex., SURF D. I. Exec: J. G. Long Ths. (600)

Coleman, Tex., COLE'ANNA D. I. Exec: R. Duus, 303 Neuces St. (400)

Coleman, Tex., OAK D. I., Hwy. 84. Exec: R. Duus, 303 Neuces St. (250)

College Station, Tex., CIRCLE D. I. Exec: A. P. Boyette. (400 and 300 Seats)

Colorado City, Tex., LONE WOLF D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Colorado City, Tex., TEXAS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Columbus, Tex., ONO D. I. Exec: (—)

Comanche, Tex., SUN D. I. Exec: Harold Flemins, and Jack Arthur. (250)

Commerce, Tex., NEW D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Conroe, Tex., HI-Y D. I., Box 715. Exec: Charles Tigner. (300)

Copperas Cove, Tex., JOY D. I. Exec: J. L. Lightfoot. (250)

Corpus Christi, Tex., BELLAIRE D. I. Exec: Chester Kyle. (650)

Corpus Christi, Tex., BOULEVARD D. I., Lexington Blvd. Exec: C. A. Richter, Southwest Ths., Box 2270. (300)

Corpus Christi, Tex, BUCCANEER D. I. Exec: Arnulfo Gonzales. (565)

Corpus Christi, Tex., CORPUS D. I. Exec: C. A. Richter, Southwest Ths., Box 2270. (700)

Corpus Christi, Tex., GULF D. I., 4044 S. Port Ave. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Corpus Christi, Tex., OSAGE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (650)

Corpus Christi, Tex., SURF D. I. Exec: Johnny Blocker. (600)

Corpus Christi, Tex., TWIN PALMS D. I. Exec: Johnny Blocker. (1000)

Corsicana, Tex., HILLSIDE D. I., P. O. Box 303. Exec: Sidney Miller. (400)

Corsicana, Tex, NAVARRO D. I. Hwy. 31. Exec: B. L. Hagle, and Cliff Turner. (304)

Cotulla, Tex., MIMOSA D. I. Exec: M. L. DuBose. (200)

Crane, Tex., DERRICK D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (250)

Crockett, Tex., RIO D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Cross Plains, Tex., PIONEER D. I. Exec: R. L. Vaught, and H. L. Millington. (207)

Cuero, Tex, CUERO D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Dallas 19, Tex., BIG D D. I., 6327 Hines Blvd. Exec: Phil Isley Ths., 2009½ Jackson St. (754)

Dallas 1, Tex., BUCKNER BLVD. D. I., Rt. 4, Box 140. Exec: Claude Ezell and Assoc., 2031 Jackson St. (660)

Dallas 11, Tex., CHALK HILL D. I., 4501 W. Davis. Exec: Claude Ezell and Assoc., 2031 Jackson St. (650)

Dallas, Tex., CINDERELLA D. I., 4601 S. Lamar. Exec: V. H. Post. (900)

Dallas, Tex, DENTON RD. D. I., 11325 Hines Blvd. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (850)

Dallas, Tex., GARLAND RD. D. I., 1620 Elizabeth, Garland. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (660)

Dallas, Tex., HAMPTON RD. D. I., 2833 S. Hampton Rd. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St. (750)

Dallas, Tex., HI-VUE D. I., 5601 S. Beckley. Exec: R. E. Moran. (500)

Dallas, Tex, JEFFERSON D. I., 4506 W. Jefferson. Exec: Claude Ezell and Assoc., 2031 Jackson St. (637)

Dallas, 17, Tex., KAUFMAN PIKE D. I., 7041 2nd Ave. Exec: Charles W. Weisenburg, W. F. W. Ths., Inc., 2013½ Young St. (600)

Dallas, Tex., LONE STAR D. I. Exec: James F. Riggs. (650)

Dallas, Tex., NORTHWEST HI-WAY D. I. Exec: Claude Ezell and Assoc., 2031 Jackson St. (552)

Dallas, Tex., SAMUEL'S BLVD. D. I., 4617 Samuel Blvd. Exec: James F. Riggs. (425)

Dallas, Tex., SOUTH LOOP D. I., 3016 E. Ledbetter Dr. Exec: Brooks Th., Inc., % Delman Th. (675)

Dallas, Tex., STARLIGHT D. I. (Colored). Exec: Ed Bowen, 131 N. Montclair. (500)

Dallas, Tex., TWIN HIWAYS D. I. Exec: Family Ths., Inc. (500)

Dallas, Tex., WHITE ROCK D. I. Exec: Family Ths., Inc., and Hartgrove and Holt. (400)

Decatur, Tex., SUNSET D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (250)

De Leon, Tex., WEEPING OAK D. I. Exec: Edgar Brinson. (300)

Del Rio, Tex., CENIZA D. I. Exec: Rowley United Ths., 314 S. Harwood St., Dallas. (400)

Del Rio, Tex., GAY NINETIES D. I. Exec: Rowley United Ct, 314 S. Harwood St., Dallas. (400)

Denton, Tex., CO-ED D. I., Box 982. Exec: Jerry B. Stout and Jake Lutzer. (500 and 250 Seats)

Denton, Tex., EL RANCHO D. I. Exec: H. J. Robinson. (300 and 45 Seats)

Denver City, Tex., MUSTANG D. I. (Formerly Pioneer). Exec: Bill Jensen and Reese Wilkerson. (150)

Devine, Tex., MEDINA VALLEY D. I., Box 494. Exec: R. B. Carpenter. (340)

Dublin, Tex., HI-VUE D. I. Exec: J. Blevins. (250)

Eagle Pass, Tex., EAGLE D. I., P. O. Box 459, Hwy. 85. Exec: E. L. Walter. (426)

Eden, Tex., EDEN D. I. Exec: J. T. Jackson. (180)

Edmonson, Tex., HART VUE D. I. Exec: J. B. Prather. (180)

El Campo, Tex., RICE D. I. Exec: Rubin Frels, Frels Ths., Victoria. (300)

El Dorado, Tex., EAGLE D. I. Exec: Delbert Edminston. (250)

Electra, Tex., HOME D. I., Hwy. 387. Exec: Martha McSpadden (270 and 32 Seats)

El Paso, Tex., BORDERTOWN D. I. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (900)

El Paso, Tex., CACTUS D .I. Exec: L. E. Wurfel, Jr., and C. W. Moore, 9581 Hiway 54. (266)

El Paso, Tex., COWBOY D. I. Exec: Joseph Feldberg, 4800 Dyer. (200)

El Paso, Tex., DEL NORTE D. I., Hwy. 80. Newman Rd. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (750)

El Paso, Tex., EL PASO D. I., Hwy. 290, Chelsea Dr. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (700)

El Paso, Tex., FIESTA D. I., P. O. Box 172. Exec: W. O. Beardon and J. B. Beeson. (500)

El Paso, Tex., NORTH LOOP D. I. Exec: Lester R. Dollison. (300)

El Paso, Tex., TRAIL D. I., Rt. 2, Box 449. Exec: L. M. Bernstein. (250)

Elsa, Tex., SKYVIEW D. I. Exec: J. T. Archer. (300)

Ennis, Tex., VILLAGE D. I. Exec: M. B. Miller. (300)

Escobares, Tex., RAU CON D. I. Exec: Raul Pena S. R. (240)

Fabens, Tex., COWBOY D. I. Exec: J. Birdwell. (300)

Fairfield, Tex., TEXAS D. I. Exec: W. R. Woody. (214)

Falfurrias, Tex., STAR D. I. Exec: Van Chamberlain. (200)

Flat, Tex., DIXIE D. I. Exec: J. L. Lightfoot. (247)

Floydada, Tex., CAPADA D. I., Box 905. Exec: Doyle Mount. (400)

Fort Stockton, Tex., TRAIL D. I., Hwy. 290. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Fort Worth, Tex., BELKNAP D. I., 5709 E. Belknap, Box 7301. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (654)

Fort Worth, Tex., BOULEVARD D. I., 7001 Camp Bowie. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (612)

Fort Worth, Tex., CORRAL D. I., Jacksboro Hwy., Box 9085. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (1400 and 500 Seats)

Fort Worth, Tex., COWTOWN D. I., Jacksboro Hwy. and 28th St. Exec: Crim and Hartgrove, Community Ths. Ct. (1000)

Fort Worth, Tex., LARIAT D. I. Exec: C. W. Flint, Jr., and Sam Benson. (345)

Fort Worth, Tex., MANSFIELD D. I., P. O. Box 329A. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (750)

Fort Worth, Tex., MEADOWBROOK D. I., 2005 Riverside Dr. Exec: Oscar May. (635 and 200 Seats)

Fort Worth, Tex., PARKAIRE D. I., 2403 N. Main St. Exec: L. C. Tidball. (484)

Fort Worth, Tex., PIKE D. I., 7500 E. Lancaster. Exec: Claude Ezell and Associates, 2031 Jackson St., Dallas. (650)

Fort Worth, Tex., RIVERSIDE D. I., Box 7102. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (650)

Fort Worth, Tex., SOUTHSIDE D. I., R. R. #3, P. O. Box 191. Exec: Southside Drive-In Th. Co. (780)

Fort Worth, Tex., TWIN D. I., 2100 Bowar. Exec: H. S. Leon, Leon Ths. Ct., 2011½ Jackson St., Dallas. (1287)

Fort Worth, Tex., WESTERNER D. I., Box 10218, Oaks Br. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (500)

Fredericksburg, Tex., "87" D. I. Exec: H. L. Durst. (300)

Freeport, Tex., TRADEWIND D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (600)

Freer, Tex., FREER D. I. Exec: H. J. Telford. (200)

Gainesville, Tex., HI-HO D. I. Exec: R. I. Payne, Frontier Ths., Tower Petroleum Bldg., Dallas. (505)

Galveston, Tex., OLEANDER D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (800)

Gatesville, Tex., CIRCLE S D. I. Exec: Joe Skelton, Regal Th. (300)

Georgetown, Tex., DUCK D. I. Exec: A. J. Vallentine. (250)

George West, Tex., LIVE OAK D. I. Exec: C. E. Guilmino. (200)

Giddings, Tex., LEE D. I. Exec: Mrs. C. W. Matson, % Dixie Th., Rockdale. (300)

Gilmer, Tex., CAROL D. I., Hwy. 271. Exec: C. H. Cox. (200)

Goldthwaite, Tex., 84 D. I. Exec: Phillip Nichols. (190)

Gonzales, Tex., APACHE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (500)

Graham, Tex., GRAHAM D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Granbury, Tex., BRAZOS D. I. Exec: Fort Keith, (250)

Grand Prairie, Tex., DOWNS D. I. Exec: Tim Ferguson. (400)

Grapevine, Tex., MUSTANG D. I. Exec: John W. Jennings. (300)

Greenville, Tex., HUNT D. I., 4305 Wesley. Exec: V. E. Hamm. (350)

Greenville, Tex., TRAIL D. I. Exec: J. B. Prather. (350)

Hale Center, Tex., XIT D. I. Exec: J. B. Prather. (150)

Hamilton, Tex., 281 D. I. Exec: H. H. Stroud. (250)

Hamlin, Tex., HAMLIN D. I. Exec: Mrs. B. S. Ferguson. (300)

Harlingen, Tex., CITRUS D. I. Exec: Miss C. DeSalma. (350)

Harlingen, Tex., VALLEY D. I., Box 1550, Hwy. 83. Exec: C. A. Richter, Southwest Ths. Ct., Box 2270, Corpus Christi. (250)

Haskell, Tex., SKY VUE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Hearne, Tex., HEARNE D. I., P. O. Box 289. Exec: T. J. Arhopulos. (370)

Hebronville, Tex. TITO'S D. I. Exec: Tito Sandobal. (175)

Henderson, Tex., CIRCLE D. I. Exec: Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (450 and 360 Seats)

Henrietta, Tex., REITIA D. I. Exec: C. Thorp, Ryan, Okla. (316)

Hereford, Tex., TOWER D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (330)

Hillsboro, Tex., HILL D. I. Exec: C. V. Jones, Rowley United Ct., 312 S. Harwood St., Dallas. (300)

Hondo, Tex., HONDO D. I. Exec: Gidney Talley. (200)

Houston, Tex., AIRLINE D. I. Exec: Lone Star Ths., 3612 Swiss Ave., Dallas. (600)

Houston, Tex., AIRVUE D. I. (Colored). Exec: Robert C. Hackett. (500)

Houston, Tex., CHOCOLATE BAYOU D. I. (Colored). Exec: Great Southern Ent. (600)

Houston, Tex., EPSOM D. I., 9700 Humble Rd. Exec: W. V. Ratcliff. (400)

Houston, Tex., HEMPSTEAD D. I., 10420 Hempstead. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Houston, Tex., HI-NABOR D. I., 7200 Mykawa Rd. Exec: A. Rains O. K. Th. Corp. (740)

Houston, Tex., IRVINGTON D. I., 8411 Irvington Blvd. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (750)

Houston, Tex., KING CENTER D. I. Exec: Jefferson Amuse. Co. (1000)

Houston, Tex., MARKET STREET D. I., 8601 Market St. Rd. Exec: Mitchamore and Neues Amuse. Co., Inc. (760 and 200 Seats)

Houston 19, Tex., POST OAK D. I., 2900 Post Oak Rd. Exec: Mrs. J. S. Groves. (620)

Houston 18, Tex., SHEPHERD D. I., 6004 N. Shepherd Dr. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (504)

Houston 5, Tex., SOUTH MAIN D. I., 11510 Main St., Old Fort Bend Rd., Box 6556. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (896 and 361 Seats)

Houston, Tex., TRAIL D. I., 3201 Old Spanish Trail. Exec: Jack Farr. (875)

Houston, Tex., WINKLER D. I., 205 Winkler Dr. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (628)

Huntsville, Tex., PINES D. I. Exec: Fred Smith. (315)

Irving, Tex., "183" D. I. Exec: Hans Smith. (400)

Jacksboro, Tex., MESQUITE D. I., P. O. Box 551. Exec: Ray Thompson. (300)

Jacksonville, Tex., CHIEF D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (490)

Jasper, Tex., JASPER D. I. Exec: F. W. McManus. (500)

Johnson City, Tex., JOY D. I. Exec: M. B. Barrow. (44)

Junction, Tex., MOONGLO D. I., Box 75. Exec: Tom Herdeman. (240)

Karnes City, Tex., MIDWAY D. I., P. O. Box 521. Exec: Alfred Pawelek. (370)

Kermit, Tex., LARIAT D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (466)

Kermit, Tex., TOWER D. I. Exec: Video Independent Ths., Ct., Tower Petroleum Bldg., Dallas. (300)

Kermit, Tex., YELLOW JACKET D. I. Exec: J. L. Slaughter. (500)

Kerrville, Tex., BOLERO D. I., Hwy. 27. Exec: C. H. Mitchamore, and Neues Amuse Co., Inc. (400)

Kilgore, Tex., KILGORE D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (300)

Killeen, Tex., KILLEEN D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Killeen, Tex., RANCIER D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas, and Ace Clary. (400)

Kingsville, Tex., BRAMA D. I. Exec: Dr. P. S Joseph and Chester Kyle, Joseph and Kyle Ths., Inc. (300)

Kingsville, Tex., KINGS D. I., P. O. Box 331. Exec: Dr. P. S. Joseph and Chester Kyle, Joseph and Kyle Ths., Inc. (650)

Kingsville, Tex., RANCHO D. I., P. O. Box 331. Exec: Dr. P. S. Joseph and Chester Kyle, Joseph and Kyle Ths., Inc. (300)

La Grange, Tex., SKY HI D. I., Hwy. 977, P. O. Box 556. Exec: Roy Loessin. (250)

La Marque, Tex., BAYOU D. I. Exec: M. K. McDaniel. (600)

Lamesa, Tex., SKY VUE D. I., Hwy. 87 and 180, Box 597. Exec: R. A. Noret. (588 and 320 Seats)

Lamesa, Tex., YUCCA D. I., Hwy. 87, P. O. Box 8. Exec: Audry Cox. (300)

Lampasas, Tex., CIRCLE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (325)

Laredo, Tex., EL RANCHO D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Laredo, Tex., FIESTA D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (450)

Laredo, Tex., TOWER D. I. (Stadium Type), Hwy. 81, 4610 San Bernardo. Exec: Arnulfo Gonzales. (352 and 73 Seats)

Levelland, Tex., LOBO D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (250)

Levelland, Tex., SPADE D. I., Hwy. 290. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (250)

Liberty, Tex., MILENTZ D. I. Exec: A. R. Milentz, Sr., Park Th. (360)

Littlefield, Tex., LFD D. I., Hwy. 84. Exec: W. J. Chesher, Palace Th. (400)

Littlefield, Tex., XIT D. I. Exec: W. J. Chesher, Palace Th. (400)

Livingston, Tex., CHIEF D. I. Exec: S. F. Fain. (350)

Lockhart, Tex., SKY VUE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (220)

Lone Star, Tex., LONE STAR D. I. Exec: Vernon Collins. (300)

Longview, Tex., CHEROKEE D. I. Exec: Pearl Hair. (600)

Longview, Tex., COLONIAL D. I., Hwy. 80, P. O. Box 1232. Exec: Dixie Amuse. Co. (400)

Longview, Tex., RIVER ROAD D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (325)

Lorraine, Tex., DONA-LIN D. I. Exec: Percy Bond. (260)

Lubbock, Tex., CIRCLE D. I. Exec: P. E. Smith. (600)

Lubbock, Tex., CORRAL D. I., Hwy. 82, Idalou Hwy. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (500)

Lubbock, Tex., COUNTRY CLUB D. I. Exec: Lin Harrington. (500)

Lubock, Tex., RED RAIDER D. I., 1213 Avenue H. Exec: W. O. Bearden, and J. B. Beeson. (950)

Lubbock, Tex., SUNSET D. I., Hwy. 62, Brownfield Hwy. Exec: P. E. Smith. (800)

Lubbock, Tex., TRAIL D. I. Exec: P. E. Smith. (723)

Lubbock, Tex., WESTERNER D. I., Hwy. 290, Levelland Hwy Exec: W. D. Bearden, and J. B. Beeson. (350)

Lufkin, Tex., PANTHER D. I. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (500 and 300 Seats)

Lufkin, Tex., REDLAND D. I., Box 500. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (400)

Madisonville, Tex., MUSTANG D. I. Exec: Mrs. C. W. Matson, ⅞ Dixie Th., Rockdale. (300)

Marfa, Tex., MARFA D. I. Exec: Theatre Entr. (201)

Marlin, Tex., ROYAL D. I. Exec: J. C. Chatmas, Palace Th. (300)

Marshall, Tex., FOX D. I. Exec: B. F. Johnson, 100 Navajo Trail, Alexandria, La. (500 and 75 Seats)

Mason, Tex., ROUND UP D. I. Exec: B. F. Grimsley, O. O. Shew, and R. L. Whitehead. (270)

Mathis, Tex., MATHIS D. I. Exec: Leon Glasscock Ct., Majestic Bldg., San Antonio. (350)

McAllen, Tex., PALMS D. I., P. O. Box 297. Exec: Buell and Walsh. (468)

McCamey, Tex., CIRCUS D. I. Exec: Frank Nelson. (300)

McGregor, Tex., MC LENNAN D. I. Exec: O. T. McGinley. (300)

McKinney, Tex., McKINNEY D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Menard, Tex., MISSION D. I. Exec: Henry Reeve. (300)

Mercedes, Tex., WES-MER D. I., P. O. Box 576. Exec: J. T. Archer. (350)

Merkel, Tex., PIONEER D. I. Exec: H. T. Hodge, H and H Ths. (315)

Mertzon, Tex., MERTZON D. I., Hwy. 67. Exec: Sam Covey. (100)

Mexia, Tex., PARKWAY D. I. Exec: Video Independent Ths., Tower Petroleum Bldg., Dallas. (260)

Midland, Tex., CHIEF D. I., Hwy. 158, Box 911. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (600)

Midland, Tex., EL RANCHO D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (520)

Midland, Tex., FIESTA D. I., Box 911. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (600)

Midland, Tex., TEXAN D. I., Hwy. 80, Rt. 1, Box 2. Exec: Jones and Jones. (300)

Mineola, Tex., SKY VUE D. I. Exec: R. T. Hooks. (250)

Mineral Wells, Tex., PINTO D. I. Exec: T. L. Ritchie, Atlanta. (400)

Mission, Tex., BUCKHORN D. I. Exec: R. G. Ramsland. (300)

Monohans, Tex., CORRAL D. I., P. O. Box 1486. Exec: Wayne Long. (277)

Monohans, Tex., LOBO D. I., Box 758. Exec: Paul Klatt, K. L. Turner, L. W. Taylor. (450)

Morton, Tex., INDIAN D. I. Exec: Wallace Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (300)

Mount Pleasant, Tex., PLEASANT D. I. Exec: Kenneth Sleigh. (350)

Muleshoe, Tex., COX D. I. Exec: D. E. and A. H. Cox. (300)

Munday, Tex., SUNSET D. I. Exec: P. V. Williams, Roxy Th. (300)

Nacogdoches, Tex., PINES D. I., Box 223. Exec: Kenneth McFarland, Jr. (360)

Navasota, Tex., PINE GROVE D. I., Box 409. Exec: Walter L. Matney. (300)

New Boston, Tex., STARLITE D. I. Exec: Boyd Atkinson. (254)

New Braunfels, Tex., TOWER D. I., Box 395. Exec: L. C. Hill. (250)

Nocona, Tex., CHIEF D. I., Box 90. Exec: C. R. Bailey, Jr., Cona Th. (250)

Nome, Tex, NOME D. I. Exec: W. H. Ownbar. (160)

Odessa, Tex., BRONCHO D. I., 2700 Andrews Hwy. Exec: H. T. Hodge, H and H Ths. (500)

Odessa, Tex., PLAINS D. I. Exec: Mrs. Maggie Scott. (800)

Odessa, Tex., TWIN CACTUS D. I., Hwy. 80. Exec: Millard Jones. (550)

Odessa, Tex., TWIN TERRACE D. I. Exec: Mrs. Maggie Scott. (1247 and 1000 Seats)

Odessa, Tex., TWIN VUE D. I., Box 2552. Exec: John Foster, and O. B. Laird. (1100 and 1186 Seats)

Olden, Tex., DIXIE D. I., P. O. Box 164. Exec: I. B. Walker. (250)

Olney, Tex., OL-WORTH D. I., Box 728. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (350)

Olton, Tex., MUSTANG D. I. Exec: S. F. Bourak. (200)

Orange, Tex., MacARTHUR D. I. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (600)

Overton, Tex., REDWOOD D. I. Exec: Paul Horton. (102)

Ozona, Tex., TRIANGLE D. I. Exec: W. V. Adwell. (150)

Palestine, Tex., DOGWOOD D. I. Exec: Rowley United Ct., 314½ S. Harwood St., Dallas. (400)

Palestine, Tex., MOONLITE D. I. Exec: William H. Pence. (300)

Paris, Tex., AIRPORT D. I. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (470)

Paris, Tex., "271" D. I., Hwy. 271. Exec: Bell Bros. (300)

Pasadena, Tex., PASADENA D. I., Box 442. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (678)

Pasadena, Tex., RED BLUFF D. I., 1100 Red Bluff Rd. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (500 and 280 Seats)

Pearsall, Tex., HUB D. I. Exec: D. H. Hubbard. (200)

Pecos, Tex., EAGLE D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (461)

Pecos, Tex., SUNSET D. I. Exec, R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Pecos, Tex., TEXAN D. I., Box 688. Exec: Carl Freeman. (300)

Pharr, Tex., CACTUS D. I., Box 94. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (450)

Plainview, Tex., PIONEER D. I., Hwy. 70. Exec: Price Holland. (300)

Plainview, Tex., SUNSET D. I. Exec: Price Holland. (400)

Plainview, Tex., TWIN-VUE D. I. Exec: Price Holland. (1000)

Pleasanton, Tex., TRAIL D. I., Box 97. Exec: W. D. Glasscock. (300)

Port Arthur, Tex., CAPRI D. I. Exec: C. W. Weisenberg, W. F. W. Ths, Inc., 2013½ Young St., Dallas. (400)

Port Arthur, Tex., DON D. I., Box 721. Exec: Julius M. Gordon, Jefferson Amuse Co., 312½ S. Harwood St., Dallas. (617 and 100 Seats)

Port Arthur, Tex., SURF D. I., 5104 Bernhardt Rd., Box 886. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (400)

Port Lavaca, Tex., PORT D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (300)

Portland, Tex., PORTLAND D. I. Exec: O. N. Shannon. (200)

Post, Tex., SUNSET D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (300)

Priddy, Tex., PRIDDY D. I. Exec: O. H. Renfro. (150 and 100 Seats)

Quanah, Tex., CHIEF D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (350)

Ralls, Tex., EL CENTRO D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (300)

Ranger, Tex., RANGER D. I. Exec: H. N. Rapp. (200)

Raymondville, Tex., CORRAL D. I. Exec: Border Ths. (400)

Refugio, Tex., RANCHO D. I. Exec: Video Independent Ths. Ct., Tower Petroleum Bldg., Dallas. (300)

Robstown, Tex., MARTI D. I. Exec: Garza Bros. (400)

Robstown, Tex., SAN PEDRO D. I. (Auditorium Type). Exec: Tito Sandoval. (200)

Robstown, Tex., STARLITE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (350)

Rockdale, Tex., REEL D. I., Hwy. 79. Exec: Mrs. C. W. Matson, Dixie Th. (300)

Rockport, Tex., COVE D. I., Hwy. 35 So. Exec: Ed Benard. (350)

Rosenburg, Tex., TWIN CITY D. I., Box 987. Exec: Julius M. Gordon, Jefferson Amuse. Co., 312½ S. Harwood St., Dallas. (450)

Rotan, Tex., SUNDOWN D. I. Exec: Rowley United Ct., 314 Harwood St., Dallas. (300)

Rule, Tex., TOWER D. I., Box 657. Exec: E. B. Wharton. (237)

San Angelo, Tex., ATOMIC D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (480 and 280 Seats)

San Angelo, Tex., BELVUE D. I. Exec: Lee Williams. (550)

San Angelo, Tex., JET D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (750)

San Angelo, Tex., ROCKET D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

San Angelo, Tex., STARDUST D. I., Hwy. 87. Exec: Lee Williams. (300)

San Angelo, Tex., TWILITE D. I., Hwy. 87, Sonora Rt. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

San Antonio, Tex., ALAMO D. I., 1428 Austin Hwy. Exec: Statewide Drive-In Ths., 1428 Austin Hwy., San Antonio. (650 and 120 Seats)

San Antonio, Tex., EL CAPITAN D. I., Hwy. 90at 36th St. Exec: Tom Summers. (570 and 250 Seats)

San Antonio, Tex., EL CHARRO D. I., P. O. Box 4006, Sta. A. Exec. John A Flache. (400)

San Antonio, Tex., FIESTA D. I. Exec: S. K. Berry and Assoc. (750 and 200 Seats)

San Antonio, Tex., FREDERICKSBURG ROAD D. I., 3534 Fredericksburg Rd., Box 28. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (552)

San Antonio, Tex., HI-PARK D. I., 1301 Goliad Rd. Exec: Claud eEzell and Assoc., 2031 Jackson St., Dallas. (950 and 132 Seats)

San Antonio, Tex., KELLY D. I. Exec: E. L. Pack, Lone Star Ths. (550)

San Antonio 4, Tex., LACKLAND D. I. Exec: E. L. Pack, Lone Star Ths. (790)

San Antonio, Tex., MISSION D. I., 3100 Roosevelt. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (760 and 120 Seats)

San Antonio 10, Tex., RIGSBY O. I. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (850)

San Antonio, Tex, ROXY D. I. Exec: W. T. Yett. (500)

San Antonio 12, Tex., SAN PEDRO D. I., Hwy. 281, Rt. 10, Box 49. Exec: Joe Wolfe. (800 and 110 Seats)

San Antonio, Tex., SOUTH LOOP "13" D. I. Exec: Statewide Drive-In Ths., 1428 Austin Hwy. (1000)

San Antonio, Tex., TRAIL D. I., Military Dr. S. E., Box 28. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (700)

San Antonio 1, Tex., VARSITY D. I., 2202 Culebra Ave. Exec: Bob Dennis and E. M. Muller, MulDen Entr. (600)

San Augustine, Tex., EDGEWOOD D. I., Hwy. 96 So. Exec: E .A. Buckalew. (250)

San Marcos, Tex., KING D. I., Hwy. 81. Exec: F. W. Zimmerman. (500)

San Marcos, Tex., SAN MARCOS D. I. Exec: Bob Ottwell. (500)

San Saba, Tex., CORRAL D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (250)

Schulenberg, Tex., MIDWAY D. I. Exec: Joe D. Blinka. (187)

Seagraves, Tex., EAGLE D. I. Exec: Wallace B. Blankenship, Blankenship Ct., 312½ S. Harwood St., Dallas. (226)

Seguin, Tex., DIXIE D. I. Exec: H. A. Daniels. (300)

Seminole, Tex., CHIEF D. I. Exec: W. E. Cox, Jr., Tower Th. (300)

Seymour, Tex., BRAZOS D. I. Exec: P. V. Williams, Ritz Th. (300)

Sherman, Tex., CAMPUS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Sherman, Tex., PERRIN D. I., Hwy. 75. Exec: R. E. Davis. (600)

Sherman, Tex., TWIN CITY D. I., Hwy. 75. Exec: C. D. Leon, Leon Ths. Ct., 2011½ Jackson St., Dallas. (350)

Shertz, Tex., STARLITE D. I. Exec: Bob Ottwell. (175)

Silverton, Tex., ARENA D. I. Exec: Mrs. C. A. Tunnell. (150)

Sinton, Tex., SINTON D. I., P. O. Box 817. Exec: T. C. Beshear. (375)

Slaton, Tex., CAPROCK D. I., Lubbock Hwy. Exec: Howard Stribling. (300)

Smithville, Tex., RIVERSIDE D. I. Exec: M. M. Mitchell. (200)

Snyder, Tex., CANYON D. I., New Spring Hwy., P. O. Box 417. Exec: Phil Isley Ths., 2009½ Jackson St., Dallas. (670)

Snyder, Tex., STARLITE D. I. Exec: Clements-Lollar Ths. (300)

Snyder, Tex., TRAIL D. I. Exec: Joe L. Love. (400)

Sonora, Tex., BRONCO D. I. Exec: G. H. Hall. (300)

Spur, Tex., HI HO D. I. Exec: R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (250)

Stafford, Tex., OAKS D. I. Exec: Leon J. Broughton. (75)

Stamford, Tex., H AND H D. I. Exec: H. T. Hodge, H and H Ths. (350)

Stanton, Tex., BUFFALO D. I. Exec: R. B. Whitaker. (250)

Stephenville, Tex., STARLITE D. I. Exec: J. J. Arthur. (300)

Strawn, Tex., ROCKET D. I. Exec: Mrs. Jerry Reynolds. (200)

Sulphur Springs, Tex., HI VUE D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300 and 25 Seats)

Sweetwater, Tex., MIDWAY D. I., Hwy. 80. Exec: J. D. Wallace. (300)

Sweetwater, Tex., MUSTANG D. I. (Formerly Park), West of Town. Exec: J. T. Carty. (250)

Sweetwater, Tex., ROCKETT D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Tahoka, Tex., T-BAR D. I. Exec: Wallace B. Blankenship, Wallace Ths., 312½ S. Harwood St., Dallas. (350)

Taylor, Tex., TEXAS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Temple, Tex., LOOP D. I. Exec: Max Skelton. (412 and 200 Seats.)

Temple, Tex., SUNSET D. I., Hwy. 36. Exec: Wayne Chipman. (300)

Temple, Tex., TEM-BEL D. I., Hwy. 81, Belton Hwy. Exec: Max Skelton. (550)

Terrell, Tex., TERRELL D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (300)

Texarkana, Tex., RED RIVER D. I. Exec: Falls and McKenna. (750)

Texas City, Tex., TRADEWIND D. I. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (700)

Tulia, Tex., TULIA D. I. Exec: Tulia Th. Co. (350)

Turkey, Tex., MIDWAY D. I. Exec: C. C. Hamm, and Harry Burnhill, % Gem Th. (250)

Turnertown, Tex., STAR D. I. Exec: R. M. Shaw, Shaw and Guthrie. (400 and 400 Seats)

Tyler, Tex., CREST D. I., 2201 W. Bow. Exec: R. J. O'Donnell, Interstate Ct., Majestic Th. Bldg., Dallas. (400)

Tyler, Tex., ROSE GARDEN D. I. Exec: S. G. Fry. (475)

Tyler, Tex., STARLITE D. I., Kilgore Hwy. Exec: C. D. Leon, Leon Ths. Ct., 2011½ Jackson St., Dallas. (350)

Uvalde, Tex., STARDUST D. I. Exec. R. I. Payne, Frontier Ths., Inc., Tower Petroleum Bldg., Dallas. (450)

Van Horn, Tex., SAGE D. I. Exec: Lee Welch. (300)

Vernon, Tex., CACTUS D. I. (Twin Screen). Exec: C. C. Hamm. (515)

Vernon, Tex., EL RANCHO D. I., P. O. Box 2093. Exec: J. L. Groves. (400)

Victoria, Tex., TEJAS-AZTECA D. I. Exec: Rubin Frels, Frels Ths. (800)

Victoria, Tex., TWIN RANCH D. I., P. O. Box 596. Exec: J. G. Long Ths., 2008A Jackson St., Dallas. (1000)

Waco, Tex., CIRCLE D. I., 2112 LaSalle, Box 1715. Exec: Claude Ezell and Assoc., 2031 Jackson St., Dallas. (603)

Waco, Tex., JOY D. I. Exec: H and B Ths., Inc., % Strand Th., Dallas. (700)

Waco, Tex., OAKLAWN D. I. Exec: Ed Newman. (600 and 241 Seats)

Waco, Tex., SKY D. I. Exec: C. Weisenberg, W. F. W. Ths., Inc., 2013½ Young St., Dallas. (500)

Waco, Tex., WACO D. I., Hwy. 81, Temple Hwy. Exec: Lone Star Ths., 4215 Live Oak, Dallas. (400)

Waco, Tex., WESTVIEW D. I., Hwy. 6. Exec: Ed Newman. (500)

Waller, Tex., HORN D. I. Exec: Nelson Horner. (300)

Waxahachie, Tex., ELLIS D. I. Exec: Rowley United Ct., 314 S. Harwood St., Dallas. (400)

Weatherford, Tex., JONES D. I., Hwy. 180. Exec: C. H. Jones, Plaza Th. (385)

West, Tex., WEST D. I. Exec: Mildred Gallia, 1524 N. Buckner St., Dallas. (300)

Wichita Falls., Tex., GRANT ST. D. I., Grant St. Exec: Bullington, Lee and McMahan. (400 and 231 Seats)

Wichita Falls, Tex., SCOTTIC D. I., Henrietta Rd. Exec: Bullington, Lee and McMahan. (452)

Wichita Falls, Tex., SEYMOUR ROAD D. I., Box 2527. Exec: Charles W. Weisenburg, W.F.W. Ths., Inc., 2013½ Young St., Dallas. (650)

Wichita Falls, Tex., SHEPHERD D. I., Hwy. 287. Exec: Charles W. Weisenburg, W.F.W. Ths., Inc., 2013½ Young St., Dallas. (600)

Wichita Falls, Tex., SKYWAY D. I., Hwy. 79. Exec: Bullington, Lee and McMahan. (640)

Wichita Falls, Tex., TWIN FALLS D. I., Hwy. 277, Sheppard Field Access Rd. Exec: Bullington, Lee and McMahan. (800)

Winters, Tex., FIESTA D. I. Exec: H. T. Hodge, H and H Ths. (300)

Woodville, Tex., DOGWOOD D. I. Exec: J. Wood Fain, Fain Th. (350)

Yoakum, Tex., SUNSET D. I. Exec: Jefferson Amuse. Co. (350)

Ysleta, Tex., BRONCO D. I. Exec: E. Abraham, El Paso. (550)

Zapata, Tex., RAMOS D. I. Exec: Felix Ramos. (200)

DENVER TERRITORY

Colorado

(NOTE: See also Salt Lake City Territory)

Alamosa, Colo., SKI-HI D. I. Exec: Murphy Ths., Raton, N. M. (400)

Arvada, Colo., WADSWORTH D. I. 5050 Wadsworth Blvd. Exec: Lem Lee, Lee Th. Co., Denver. (1000 and 500 Seats)

Boulder, Colo., HOLIDAY D. I. Exec: Graves and Williams. (600)

Boulder, Colo., MOTORENA D. I., P. O. Box 671. Exec: Irving Gilman, United Intermountain Ths. (500)

Brighton, Colo., KAR-VU D. I. Exec: Sam Feinstein. (350)

Brush, Colo., BRUSH D. I. Exec: John C. Roberts. (350)

Canon City, Colo., SUNSET D. I. Exec: George McCormick. (275)

Center, Colo., FRONTIER D. I. Exec: Herbert Gumper. (300)

Colorado Springs, Colo., ARCADIA D. I. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg. (—)

Colorado Springs, Colo., 8th STREET D. I., S. 8th St. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg. (700)

Colorado Springs, Colo., NORTHSIDE D. I. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg. (400)

Colorado Springs, Colo., STARLITE D. I., P. O. Box 241. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg. (1000)

Craig, Colo., SUNSET D. I. Exec: Schumour Ths., and Gibraltar Ent., Inc., 1901 Sherman St., Denver. (350)

Delta, Colo., SKYLITE D. I. Exec: William Taggert. (400)

Delta, Colo., TRU-VU D. I. Exec: S. H. Dixon. (400)

Denver, Colo., EAST D. I., 12600 E. Colfax, Box 188. Exec: Wolfberg Ct. (750)

Denver, Colo., EVANS D. I., 2705 W. Evans. Exec: R. L. Stanger. (550)

Denver, Colo., LAKESHORE D. I. (Lakewood), 2153 Broadway. Exec: A. P. Archer, Civic Ct. (975 and 200 Seats)

Denver, Colo., MONACO D. I., 40th Ave. and Monaco Blvd. Exec: Lem Lee, Lee Th. Co. (750)

Denver, Colo., NORTH D. I., N. Federal Blvd. and 72nd Ave. Exec: Wolfberg Ct., 1631 Glenarm Pl. (600)

Denver, Colo., SOUTH D. I. (Englewood). Exec: Wolfberg Ct., 1631 Glenarm Pl . (850)

Denver, Colo., VALLEY D. I., E. Evans Ave. Exec: Wolfberg Ct., 1631 Glenarm Pl. (1000)

Denver, Colo., WEST D. I., 601 Kipling. Exec: Wolfberg Ct., 1631 Glenarm Pl. (750)

Durango, Colo., KNOX D. I. Exec: T. R. Knox, Box 51. (340)

Estes Park, Colo., LAKE ESTES D. I. Exec: D. D. Shanks. (225)

Fort Collins, Colo., SUNSET D. I. Exec: Joe LaConte. (560)

Fort Morgan, Colo., VALLEY D. I., Box 860. Exec: John C. Roberts. (350)

Glenwood Springs, Colo., CANYON D. I. Exec: Gibraltar Ent., Inc., 1901 Sherman St., Denver. (400)

Grand Junction, Colo., CHIEF D. I., P. O. Box 958. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg, Colorado Springs. (460)

Grand Junction, Colo., ROCKET D. I. Exec: Lloyd Scales. (350)

Grand Junction, Colo., STARLITE D. I., 2028 North Ave. Exec: Lloyd Files. (300)

Greeley, Colo., GREELEY D. I. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg., Colorado Springs. (596)

Greeley, Colo., MOTORENA D. I. Exec: Lem Lee, Lee Th. Co., Denver. (400)

Gunnison, Colo., ISLAND ACRES D. I. Exec: C. H. Bevington. (350)

Hotchkiss, Colo., HOTCHKISS D. I. Exec: F. M. Peterson. (300)

Hudson, Colo., CORRAL D. I. Exec: Mr. Philipson. (350)

Ignacio, Colo., BUCKSKIN D. I. Exec: Glenn Whittstruck. (300)

Julesburg, Colo., JULESBURG D. I. Exec: M. V. Nygren. (300)

La Jara, Colo., ROUND UP D. I. Exec: Herbert Gumper. (250)

La Junta, Colo., LA JUNTA D. I. Exec: Basil Smith. (550)

Lamar, Colo., KAR-VU D. I. Exec: Dave Davis, Atlas Ct., Denver . (410)

Littleton, Colo., CENTENNIAL D. I. Exec: Lem Lee, Lee Th. Co., Denver. (1280)

Longmont, Colo., STARVUE D. I., Box 58. Exec: D. T. Brown, Jr. (350)

Louisville, Colo., L AND L MOTOR VU D. I. Exec: Romano and Houser. (225)

Loveland, Colo., MOTORENA D. I., 1 Mile S. on King's Rd., Box 206. Exec: Gibraltar Ent., Inc., 1901 Sherman St., Denver. (300)

Monte Vista, Colo., MONTE VISTA D. I. Exec: George Kelloff. (330)

Montrose, Colo., STAR D. I., Star Rt., Cedaridge. Exec: Harry Barrett. (350)

Naturia, Colo., URANIUM D. I. Exec: William Moore, and Clarence Batter. (275)

Norwood Colo., NORWOOD D. I. Exec: F. H. Buss. (62)

Pueblo, Colo., HICKS D. I., Rt. 96, Box 1644. Exec: M. J. Koneman. (360)

Pueblo, Colo., LAKE D. I., Lake and Maryland Ave. Exec: Lionel Semon. (500)

Pueblo, Colo., MESA D. I., Box 554. Exec: Larry Starsmore, Westland Ct., Peak Th. Bldg., Colorado Springs. (980)

Pueblo, Colo., PUEBLO D. I., Canon City Hwy. Exec: Lionel Semon. (725)

Rifle, Colo., CHIEF D. I. Exec: Mrs. Mary Line by John Monson. (304)

Rocky Ford, Colo., STARLITE D. I. Exec: Sever and Downing, and Gibraltar Etr., Inc., 1901 Sherman St., Denver. (400)

Salida, Colo., KNOX D. I., 1048 F St. Exec: T. R. Knox. (350)

Sterling, Colo., STARLITE D. I., P. O. Box 1592. Exec: F. L. Childs. (350)

Trinidad, Colo., PEAK D. I. Exec: John Sawaya. (350)

Nebraska

(NOTE: See also Omaha Territory)

Alliance, Neb., STARLITE D. I. Exec: Burdette L. Fitch. (300)

Bridgeport, Neb., CENTRE D. I. Exec: Dorenee Smith. (300 and 200 Seats)

Bridgeport, Neb., SUNSET D. I. Exec: John and Ted Vasson. (200)

Chadron, Neb., STARLITE D. I. Exec: Black Hills Amuse. Co., Deadwood, S. D. (475)

Chadron, Neb., STOCKADE D. I. Exec: Mrs. Viola Ormacher. (250)

Gordon, Neb., CHIEF D. I. Exec: Black Hills Amuse. Co., Deadwood, S. D. (300)

Kimball, Neb., PANHANDLE D. I. Exec: Panhandle Amuse. Co. (250)

McCook, Neb., McCOOK D. I. Exec: D. T. Brown, Jr. (300)

Mitchell, Neb., MITCHELL D. I. Exec: Harvey Brooks. (240)

North Platte, Neb., PAWNEE D. I. Exec: Commonwealth Ths., 213 W. 18th St., Kansas City 8, Mo. (350)

Ogallala, Neb., 5TH STREET D. I. (Formerly Kehr). Exec: A. F. Kehr. (300)

Oshkosh, Neb., OSHKOSH D. I. Exec: M. V. Nygren. (250)

Scottsbluff, Neb., BIGGER'S D. I. Exec: Floyd Biggers. (500)

Sidney, Neb., PLAINS D. I. Exec: Gillham and Carter. (350)

Terrytown, Neb., TERRY'S CARENA D. I. Exec: Terry Carpenter. (600)

New Mexico

(NOTE: See also Dallas and Salt Lake City Territories)

Albuquerque, N. M., CACTUS D. I., Yale Ave. near Hwy. 66. Exec: Albuquerque Exhibs. (738)

Albuquerque, N. M., DUKE CITY D. I. Exec: Tom Griffing. (940)

Alburquerque, N. M., SAN JOSE D. I., 3251 Broadway S. E., Box 6132. Exec: Robert E. Morley. (400)

Albuquerque, N. M., 66 D. I., 4800 W. Central Ave. Exec: Albuquerque Exhibs. (557 and 40 Seats)

Albuquerque, N. M., STAR D. I., 5400 N. 2nd St. Exec: Rom Robble, New Mexico Th. Assoc. (500)

Albuquerque, N. M., SUNSET D. I. Exec: Marlin Butler. (400)

Albuquerque, N. M., TERRACE TWIN D. I. Exec: Tom Griffing. (1418 and 100 Seats)

Alubquerque, N. M., TESEQUE TWIN D. I., 500 N. Penna. Ave. Exec: Marlin Butler. (850)

Artesia, N. M., CIRCLE B D. I. Exec: Ray Bartlett. (350)

Aztec, N. M., RINCON D. I. Exec: Rincon Amuse. Co. (400)

Clayton, N. M., TRAIL D. I. Exec: Murphy Ths., Raton. (200)

Espanola, N. M., CHICO D. I. Exec: Lou Mills. (350)

Farmington, N. M., APACHE D. I. Exec: Russell Allen and Kenneth Crawford. (325)

Farmington, N. M., MESA D. I., Box 685. Exec: Frank Budai. (400)

Farmington, N. M., VALLEY D. I. Exec: Allen and Crawford. (350)

Grant, N. M., TRAIL D. I., Box 308. Exec: J. C. West. (300)

Las Cruces, N. M., FIESTA D. I., P. O. Box 1381. Exec: V. A. Kane. (350)

Las Cruces, N. M., ROCKET D. I., P. O. Box 1379. Exec: V. A. Kane. (500)

Las Vegas, N. M., VEGAS D. I. Exec: Gus Daskalos. (300)

Lordsburg, N .M., CHIEF D. I. Exec: Mrs. S. E. Allen. (220)

Raton, N. M., 85 D. I. Exec: Murphy Ths. (340)

Santa Fe, N. M., PUEBLO D. I. Exec: Gibraltar Ent., Inc., 1901 Sherman St., Denver, Colo. (500)

Santa Fe, N. M., YUCCA D. I. Exec: Wiles and Nash. (500)

Santa Rosa, N. M., SKY RANCH D. I. Exec: Lester Dollison. (200)

Silver City, N. M., COPPER D. I. Exec: George Dowdle. (400)

Silver City, N. M., SKYVUE D. I. Exec: H. D. McLaughlin. (200)

Socorro, N. M., SIERRA D. I. Exec: Gibraltar Ent., Inc., 1901 Sherman St., Denver, Colo. (200)

Truth or Consequences, N. M. (Hot Springs), PALMS D. I., 507 Fir St. Exec: J. O. Conwell. (353)

Tucumcari, N. M., CANAL D. I. Exec: Milas Hurley. (520)

Tucumcari, N. M., COUNTY D. I. Exec: L. R. Yessler. (400)

Tularoso, N. M., JET D. I. Exec: F. R. Whittaker. (200)

South Dakota

(NOTE: See also Minneapolis and Omaha Territories)

Bell Fourche, S. D., KLING D. I. Exec: (300)

Custer, S. D., PINES DRIVE IN. Exec: Jack Richtman and Don Clifford. (275)

Lead, S. D., MILE HIGH D. I Exec: Mile High Corp. (500)

Rapid City, S. D., RAPID D. I. Exec: Black Hills Amuse. Co., Deadwood. (850)

Rapid City, S. D., SIOUX D. I. Exec: A. J. Johnson. (500)

Rapid City, S. D., STARLIGHT D. I. Exec: Black Hills Amuse. Co., Deadwood. (560)

Spearfish, S. D., HILLS D. I. Exec: Wally O'Neal. (380)

Texas

(NOTE: See also Dallas and Oklahoma City Territories)

Dalhart, Tex., EL RANCHO D. I. Exec: J. C. Parker. (356)

Wyoming

(NOTE: See also Salt Lake City Territory)

Basin, Wyo., CORY D. I. Exec: Paul S. Cory. (287)

Buffalo, Wyo., DRIVE IN. Exec: Sam Rosenthal. (300)

Casper, Wyo., SKYLINE D. I. Exec: E. J. and Russell Schulte, and Gibraltar Ent., Inc., 1901 Sherman St., Denver, Colo. (400)

Cheyenne, Wyo., MOTOR VU D. I., P. O. Box 256. Exec: Russ Dauterman. (500)

Cheyenne, Wyo., STARLITE D. I. Exec: Russ Dauterman. (350)

Cody, Wyo., PARK D. I. Exec: Earl J. Corder. (300)

Cody, Wyo., WEST D. I. Exec: Richard Haberman. (312)

Douglas, Wyo., MILE HI D. I. Exec: Douglas Amuse. Co. (200)

Lander, Wyo., DIANE D. I. Exec: M. E. Goodrich. (400)

Laramie, Wyo., SKYLINE D. I., Box 614. Exec: Robert Adams. (300)

Lovell, Wyo., MIDWAY D. I. Exec: H. D. Bischoff. (211)

Lusk, Wyo., LUSK D. I. Exec: Pete Meir. (250)

Newcastle, Wyo., WYO D. I. (Formerly Starlite). Exec: Wally O'Neill, and Lyle Lovell. (300)

Powell, Wyo., PAUL'S D. I. Exec: Paul McCalmon. (200)

Rawlins, Wyo., SKYLINE D. I. Exec: Robert Adams. (300)

Riverton, Wyo., KNIGHT's D. I. Exec: T. E. Knight. (405)

Riverton, Wyo., WEST D. I., P. O. Box 1111. Exec: F. W. Chopping. (300)

Rock Springs, Wyo., STARLITE D. I. Exec: Tino Ringalio, Box 1221, Cheyenne. (200)

Sheridan, Wyo., SKYLINE D. I. Exec: R. H. Bennett. (438)

Sheridan, Wyo., STARLITE D. I. Exec: Robert Beck. (500)

Thermopolis, Wyo., RIO D. I. Exec: Fred Curtis. (300)

Torrington, Wyo., HILLTOP D. I., P. O. Box 112. Exec: Hazel Stewart. (350)

Torrington, Wyo., WEST D. I. Exec: W. H. McDonald. (340)

Wheatland, Wyo., VALLEY D. I. Exec: Gibraltar Ent., Inc., 1901 Sherman St., Denver, Colo. (267)

Worland, Wyo., LLOYD's D. I. Exec: Lloyd Kerby. (380)

DES MOINES TERRITORY

Illinois

(NOTE: See also Chicago, Indianapolis, and Saint Louis Territories)

Milan, Ill., MEMRI D. I. Exec: Memri Dr. In, Inc., and George Carpentier. (600)

Moline, Ill., CORRAL D. I. Exec: Walter Allen. (484)

Silvas, Ill., SEMRI D. I. Exec: Memri Dr. In, Milan, and George Carpentier. (500)

Iowa

(NOTE: See also Omaha and Saint Louis Territories)

Albia, Ia., DRIVE IN. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (200)

Algona, Ia., STARLITE D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (350)

Ames, Ia., RANCH D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (518)

Atlantic, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Ths., Pioneer Th. Bldg., Carroll. (323)

Boone, Ia., DRIVE IN. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (235)

Burlington, Ia., BURLINGTON D. I., Agency Rd., Hwy. 80. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (420)

Carroll, Ia., CARROLL D. I. Exec: Don Smith, Pioneer Ths., Pioneer Th. Bldg. (480)

Cedar Falls, Ia., HILLCREST D. I. Exec: W. F. DeFreene, Hillcrest Dr. In Corp., 6808 University, Des Moines. (500)

Cedar Rapids, Ia., CEDAR RAPIDS D. I., Hwys. 30 and 149 SW. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (636)

Cedar Rapids, Ia., TWIXT TOWN D. I. Exec: Twixt Town Drive-In Corp., and Bill Curry, Iowa United Ths., 1123 High St., Des Moines. (620)

Centerville, Ia., TOWN AND COUNTRY D. I. Exec: Wayne McCalment and Bob Martin, and A. A. Renfro, Omaha, Neb. (400)

Charles City, Ia., CHARLES CITY D. I., Hwy. 218. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (350)

Charles City, Ia., STARVUE D. I., Hwy. 14. Exec: Carl and Ralph Olson, and Paul Bramblatt. (402)

Clinton, Ia., CLINTON D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (396)

Creston, Ia., SKYLARK D. I. Exec: Commonwealth Ths., 213 W. 18th St., Kansas City 8, Mo. (300)

Davenport, Ia., BEL-AIR D. I., 2701 W. Locust St. Exec: James Fenoglio, F and S Amuse. Co. (550)

Decorah, Ia., STARLITE D. I. Exec: Hod Engbertson, and W. F. DeFreene, 6808 University, Des Moines. (350)

Des Moines 13, Ia., CAPITOL D. I., 4646 E. 14th St. Exec: Capitol Dr. In Th. Corp., and Les Durland, Consolidated Agencies, Kansas City, Mo. (707)

Des Moines, Ia., S. E. 14TH D. I., S. E. 14th and Hart. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (600)

Des Moines, Ia., TOWN D. I., 3701 Grand Ave. Exec: Bill Curry, Iowa United Ths., 1123 High St. (450)

Des Moines, Ia., WEST VU D. I., Hickman Rd. and 85th. Exec: Bill Curry, Iowa United Ths., 1123 High St. (600)

Dubuque, Ia., DUBUQUE D. I., John Deere Rd., Box 767. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (350)

Estherville, Ia., CHIEF D. I. Exec: R. L. Johnson, and C. W. Legg. (400)

Fairfield, Ia., FAIRFIELD D. I. Exec: Theatre Entr. of Des Moines, and Nathan Sandler, 1020 Paramount Bldg., Des Moines. (300)

Fort Dodge, Ia., HILL TOP D. I., Hwy, 169, Box 277. Exec: Willis Warner and Otis Heskett. (428)

Fort Madison, Ia., DRIVE IN. Exec: H. K. Hoglan. (350)

Grinnell, Ia., GRINNELL D. I., Hwy. 146. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (250)

Iowa City, Ia., IOWA CITY D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (392)

Iowa Falls, Ia., FALLS D. I. Exec: J. C. Jensen, Iowa United Ths., 1123 High St., Des Moines, and Bill Curry. (500)

Knoxville, Ia., FRONTIER D. I., Hwy. 92. Exec: Earl Kerr. (300)

Maquoketa, Ia., 61 D. I. Exec: Walter Allen. (286)

Marshalltown, Ia., MARSHALLTOWN D. I., 504 N. 5th St., R.R. #4, P. O. Box 184. Exec: H. N. Schrodt. (372)

Mason City, Ia., MASON CITY D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (606)

Mount Pleasant, Ia., RIDGE D. I. Exec: M. L. Dickson. (350)

Muscatine, Ia., HILL TOP D. I. Exec: Ludy Bosten, Uptown Th. (400)

Newton, Ia., NEWTON D. I. Exec: Sam Rhodes. (256)

Oelwin, Ia., OELWIN D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (300)

Oskaloosa, Ia., OSKALOOSA D. I. Exec: Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (450)

Ottumwa, Ia., NORTH OTTUMWA D. I., Municipal Airport. Exec: Ottumwa Dr. In Co., and Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (650)

Ottumwa, Ia., SOUTH OTTUMWA D. I. Exec: Ottumwa Dr. In Co., and Frank Rubel, Central States Ths., Paramount Bldg., Des Moines. (724)

Panora, Ia., STAR VU D. I. Exec: Dorothy Kean, Little Th. (200)

Perry, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (410)

Pocahanus, Ia., CHIEF D. I. Exec: A. F. Mueting. (300)

Spencer, Ia., CORRAL D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (354)

Washington, Ia., WACO D. I., Box 490. Exec: Washington Amuse. Co., and Bill Curry, Iowa United Ths., 1123 High St., Des Moines. (400)

Waterloo, Ia., SKY VU D. I., Hwy. 20 E., Box 485. Exec: Frank Rubel, Central States Th. Corp., Paramount Th. Bldg., Des Moines. (429)

Waterloo, Ia., STARLITE D. I., Hwy. 218, Box 485. Exec: Frank Rubel, Central States Th. Corp., Paramount Bldg., Des Moines. (688)

Waverly, Ia., DRIVE IN, Hwy. 3. Exec: Ernie Thiess. (300)

Webster City, Ia., WEBSTER CITY D. I. Exec: Don Smith, Pioneer Th. Corp., Pioneer Th. Bldg., Carroll. (393)

DETROIT TERRITORY

Michigan

(NOTE: See also Milwaukee Territory)

Addison, Mich., STARLITE D. I. Exec: Al Payne, Cooperative Ct., 1001 Fox Bldg., Detroit 1, and Warren Alguire. (200)

Adrian, Mich., LENAWEE D. I., 3000 N. Adrian Rd., R.F.D. #3. Exec: V. V. Ochs, and General Ths., Inc., 3410 Grand River, Detroit 8. (300)

Adrian, Mich., SKY D. I., 301 Charles. Exec: R. B. Tuttle, Mgr., and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (480)

Albion, Mich., ALBION D. I. Exec: Albert Bohn. (400)

Alpena, Mich., ALPENA D. I. Exec: Dean Sowder, and Glenn Wallace, Northeastern Mich. Th. Co. (464)

Alpena, Mich., THUNDER BAY D .I. Exec: Chrysler Assoc. Ths., 8843 E. Jefferson, Detroit 14. (500)

Ann Arbor, Mich., SCIO D. I., % Granada Th., 5539 W. Warren. Exec: Robinson and Carrow, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (400)

Ann Arbor, Mich., YPSI ANN D. I., 4675 Washtenaw. Exec: Roger Robinson, Detroit 1, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (500)

Rad Axe, Mich., M-53 D. I. Exec: Ashmun Bros., Caro. (400)

Battle Creek, Mich., BATTLE CREEK AUTO D. I., Rt. 5, Box 106. Exec: Paul O. Brake, Midwest Ent., and General Ths., Inc., 3410 Grand River, Detroit 8. (500)

Battle Creek, Mich., WEST POINT D. I. Exec: Paul O. Brake, Midwest Ent., and General Ths., Inc., 3410 Grand River, Detroit 8. (600)

Bay City, Mich., STARLITE D. I. Exec: Ashmun Bros., Caro. (900)

Bay City, Mich., TUSCOLA D. I., Rt. M-15. Exec: Ashmun Bros., Caro . (650)

Bayshore, Mich., NORTHLAND D. I., Exec: Mr. and Mrs. J. Koslow, and Glenn Wallace, Northeastern Mich. Th. Co. (300)

Benton Harbor, Mich., STARLITE D. I., Rt. M-139. Exec: Gus and Walter Elsnor. (575)

Beulah, Mich., NITE SKY D. I. Exec: Arnold Cohn, and Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (170)

Big Rapids, Mich., BIG RAPIDS D. I. Exec: R. A. Chipman. (300)

Brighton, Mich., LAKES D. I. Exec: C. A. Anderson, Lakes Th. Corp., and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (500)

Burnside, Mich., BURNSIDE D. I. Exec: Chrysler Assoc. Ths., 8843 E. Jefferson, Detroit 14, and Burnside Assoc. Th. (361)

Cadillac, Mich., CADILLAC D. I. Exec: L. E. Stephenson and Ceylon Caszatt, McBain, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (316)

Caro, Mich., CARO D. I. Exec: Ashmun Bros. (450)

Caseville, Mich., BLUE SKY D. I. Exec: R. F. Schuckert, Caro. (250)

Charlotte, Mich., DRIVE IN (Caro). Exec: C. R. Beechler. (400)

Cheboygan, Mich., CHEBOYGAN D. I. Exec: Charles Leneschmidt, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (650)

Clare, Mich., NORTHLAND D. I. Exec: Charles H. Bonham. (500)

Coldwater, Mich., COLDWATER D. I. Exec: William Schulte, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (300)

Corunna, Mich., SKY-WAY D. I. Exec: William A. Rice, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (350)

Dearborn, Mich., DEARBORN D. I., 26500 Ford Rd. (Garden City). Exec: James Ross, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1040)

Dearborn, Mich., ECORSE D. I. Exec: Ohio Management Co., 450 Leader Bldg., Cleveland 14, O. (1000)

Dearborn, Mich., FORD WYOMING D. I., 10400 Ford Rd., Box 59. Exec: C. W. Clark, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (750)

Dearborn, Mich., JOLLY ROGERS D. I. Exec: Nick George, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1000)

Deckerville, Mich., HI-WAY D. I. Exec: C. H. Clements, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (400)

Detroit, Mich., BELAIR D. I. Exec: Goldberg Bros., Community Ths., 2905 Cadillac Tower, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1200)

Detroit, Mich., EASTSIDE D. I., 19440 Harper St. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (675)

Detroit 23, Mich., TOWN O. I. (Redford Township), 9401 Telegraph Rd. Exec: Goldberg Bros., Community Ths., 2905 Cadillac Tower, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1100)

Detroit, Mich., TROY D. I. Exec: Leonard Brooks. (—)

Detroit, Mich., WESTSIDE D. I. (Ferndale), 8 mi. and Schaefer Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (700)

Drayton Plains, Mich., STARLITE D. I. Exec: Earl E. Howard, Starlite Th. Corp., and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (600)

Durand, Mich., HI-VUE D. I. Exec: Steve Paluch. (—)

East Lansing, Mich., CREST D. I., P. O. Box 91. Exec: Ashmun Bros., Caro. (650)

East Tawas, Mich., TAWAS D. I., 2005 E. US 23. Exec: Ashmun Bros., Caro. (350)

Farmington, Mich., GRAND RIVER D. I. (Detroit). Exec: Grand River Drive-In, Inc., Goldberg Bros., Community Ths., 2905 Cadillac Tower, Detroit, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1050)

Flint, Mich., CORUNNA WESTSIDE D. I., Rt. Mi-21. Exec: W. M. Rice, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (900)

Flint, Mich., DORT EASTSIDE D. I., 3750 S. Dort Hwy. Exec: W. M. Rice, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1406)

Flint 7, Mich., U. S. 23 D. I., P. O. Box 65. Exec: R. O. Fredley. (1130)

Fraser, Mich., GRATIOT D. I. (Detroit), 31900 Gratiot. Exec: Alex Schreiber Ct., Detroit. (1050)

Gaylord, Mich., SKY-HI D. I. Exec: James and George Olson, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (318)

Grand Rapids, Mich., BELTLINE D. I., 1400 W. 28th St. Exec: Jack Locks, and General Ths., Inc., 3410 Grand River, Detroit 8. (750)

Grand Rapids, Mich., DIVISION D. I., 5566 S. Division. Exec: Jack Locks, and General Ths., Inc., 3410 Grand River, Detroit 8. (850)

Grand Rapids, Mich., STADIUM D. I. Exec: Joe Busic, 1028 S. Division. (300)

Greenville, Mich., GREENVILLE D. I., 9410 S. Greenville Rd. Exec: Russell Chipman. (350)

Hartford, Mich., SUNSET D. I., U. S. 12. Exec: J. Frank Jacobs, 120 Douglas St., Bangor. (350)

Hastings, Mich., HASTINGS D. I., P. O. Box 289. Exec: Donald G. Garey. (280)

Hillsdale, Mich., HILLSDALE D. I., Rt. M-99. Exec: Howard Sharpley. (170)

Honor, Mich., CHERRYBOWL D. I., Rt. 31. Exec: L. O. Griffin, and Waxman Ct., P. O. Box C-8, Grand Rapids. (300)

Houghton Lake, Mich., 55 HI D. I. Exec: James Olson, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2456 Woodward Ave., Detroit 1. (738)

Hubbard Lake, Mich., PAUL BUNYON SKY-VUE D. I. Exec: Lou Kramer, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (200)

Ionia, Mich., IONIA D. I. Exec: Russell Chipman and Arthur Chipman. (300)

Jackson, Mich., AUTO D. I., 4400 Ann Arbor Rd., P. O. Box 607. Exec: Lawrence J. Aubry, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (520)

Jackson, Mich., BEL-AIR D. I. Exec: J. Phillips, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (550)

Kalamazoo, Mich., DOUGLAS D. I. Exec: A. Ochs, Lombardo Bros., 3600 Ridge Rd., Cleveland, O., and General Ths., Inc., 3410 Grand River, Detroit 8. (800)

Kalamazoo, Mich., KALAMAZOO AUTO D. I., 5528Portage Rd. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, O., and General Ths., Inc., 3410 Grand River, Detroit 8. (400)

Lansing, Mich., LANSING D. I., 5097 S. Cedar Rd. Exec: Lawrence J. Aubry, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (988)

Lansing, Mich., NORTH SIDE D. I. Exec: August Leon Robbe, and General Ths., Inc., 3410 Grand River, Detroit 8. (300)

Lansing, Mich., STARLIGHT D. I. Exec: James Blackburn, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (450)

Lapeer, Mich., SUNSET D. I. Exec: R. F. Schuckert, Caro. (432)

Manistee, Mich., CHIPPEWA D. I. Exec: Darwin S. Evens. (276)

Marlette, Mich., H AND S D. I. Exec: William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (300)

Marysville, Mich., MARYSVILLE D. I., P. O. Box 84. Exec: Alex Slendak, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave , Detroit 1. (600)

Mendon, Mich., M-60 D. I. Exec: L. S. Danley. (168)

Midland, Mich., SUNSET D. I. Exec: Frank C. Bremer, and General Ths., Inc., 3410 Grand River, Detroit 8. (500)

Mio, Mich., DAI-ROY D. I. Exec: Roy Whitney. (300)

Monroe, Mich., DIXIE D. I., 6720 N. Monroe. Exec: Jack Phillips, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (300)

Monroe, Mich., DRIVE IN. Exec: Butterfield Ths., 1492 National Bank Bldg., Detroit 26. (—)

Monroe, Mich., GENERAL CUSTER D. I. Exec: B. J. Robins, and General Ths., Inc., 3410 Grand River, Detroit 8. (700)

Morenci, Mich., SKYLINE D. I. Exec: Howard Sharpley. (200)

Mount Clemens, Mich., MT. CLEMENS D. I., Rt. 3, Box 399. Exec: Mt. Clemens Dr. In Corp., and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1000)

Mount Morris, Mich., NORTH FLINT D. I., Mt. Morris Rd., Box 65. Exec: R. O. Fredley. (646)

Muskegon, Mich., MUSKEGON AUTO D. I., 4921 Grand Haven Rd. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, O., and General Ths., Inc., 3410 Grand River, Detroit 8. (740)

Muskegon, Mich., N-K D. I. Exec: Nick Kuris, and General Ths., Inc., 3410 Grand River, Detroit 8. (1024)

Plainwell, Mich., 131 D. I., Hwy. 131. Exec: Harold Kortes, and Charles Sears, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (268)

Pontiac, Mich., BLUE SKY D. I., 2150 Opdyke. Exec: Roger Robinson, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (908)

Pontiac, Mich., PONTIAC D. I., 2435 Dixie Hwy. Exec: Elkon Samuels, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (794)

Port Huron, Mich., BLUEWATER D. I., 5737 Lakeshore Rd. Exec: Blue Water Th. Co., and A. W. Ochs. (750)

Rosebush, Mich., SUNDOWN D. I. Exec: George and James Olson, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (350)

Royal Oak, Mich., OAK D. I. Exec: Alden Smith, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1100)

Saginaw, Mich., BEL-AIR D. I. Exec: Ashmun Bros., Caro. (650)

Saginaw, Mich., SAGINAW D. I., 5151 E. Genesee St. Exec: Allen Shaw, Lombardo Bros., 3600 Ridge Rd., Cleveland, O., and General Ths., Inc., 3410 Grand River, Detroit 8. (716)

Saginaw, Mich., TWILITE D. I., 5810 State Rd. Exec: Ashmum Bros., Caro. (716)

Saint Johns, Mich., FAMILY D. I. Exec: Howard Kortes, and Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (420)

Saint Joseph, Mich., ST. JOE AUTO D. I., Rt. 1, Box 107B. Exec: M. H. Johnson, and Clive Waxman. (450)

Saint Louis, Mich., SKYTOP D. I. Exec: J. Langston, and William Clark, Clark Th. Serv., 504 Donovan Bldg., 2457 Woodward Ave., Detroit 1. (462)

Saugatuck, Mich., STARLITE D. I. (Holland) Exec: Henry Carley, and Butterfield Ths., 1492 National Bank Bldg., Detroit 26. (450)

Scottville, Mich., STARLITE D. I. Exec: Glenn Wallace, West Michigan Th. Corp. (300)

Sturgis, Mich., STURGIS D. I. Exec: Andrew Jenson. (250)

Traverse City, Mich., TRAVERSE D. I. Exec: Glenn Wallace, West Michigan Th. Corp. (540)

Wayne, Mich., WAYNE D. I. Exec: W. D. Shafer, State Th., and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1000)

Wyandotte, Mich., FORT D. I., Eureka and Fort. Exec: Nicholas George, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (1200)

Wyandotte, Mich., MICHIGAN D. I., Rt. 25, 14850 Dix-Toledo. Exec: Nicholas George, and Cooperative Ct., 1001 Fox Bldg., Detroit 1. (900)

INDIANAPOLIS TERRITORY

Illinois

(NOTE: See also Chicago, Des Moines and Saint Louis Territories)

Mount Carmel, Ill., CARMEL D. I. Exec: Keith Coleman, and Affiliated Ths., Inc., Illinois Bldg., Indianapolis, Ind. (500)

Indiana

(NOTE: See also Chicago, Cincinnati and Saint Louis Territories)

Anderson, Ind., NORTH D. I., Hwy. 32, Box 665. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (497)

Anderson, Ind., SOUTH D. I., Box 665. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (550)

Angola, Ind., LAKELAND D. I., U.S. Rt. 27. Exec: M. H. Scheidler, and Clair Stuckey. (500)

Attica, Ind., WABASH D. I. Exec: Carl Noggle, and Edward Campbell Ct. (350)

Bainbridge, Ind., MEADOWBROOK D. I. (Greencastle), R.R. #1. Exec: Archie Allen. (375)

Batesville, Ind., DRIVE IN, Oldenburg Rd., Hwy. 229. Exec: Jack Jackson, and Cooperative Ths., Chamber of Commerce Bldg., Indianapolis. (500)

Bedford, Ind., BEDFORD D. I. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bedford, Ind., EAST 50TH D. I., P. O. Box 23. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bloomfield, Ind., FAMILY D. I., R.R. #2. Exec: Ornstein Ct., 427 S. 3rd St., Louisville, Ky., and John Flake. (300)

Bloomington, Ind., CASCADE D. I., Martinsville Rd. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Bluffton, Ind., BLUFFTON D .I., North of City. Exec: Anthony Mallers, Mallers Ct., Fort Wayne. (350)

Centerton, Ind., CENTER BROOK D. I. Exec: Clyde E. Weddel, Jr., R.R. #2, Martinsville, and Baker Ct. (400)

Charlestown, Ind., FAMILY D. I., P. O. Box 215. Exec: L. E. Grewell, 514 Forum Ave., Louisville, Ky., and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (250)

Clarkesville, Ind., CLARKSVILLE D. I., 757 Clark Blvd. Exec: Atkins and Bowling, and R. P. Dawson. (600)

Clayton, Ind., MAPLECROFT D. I. Exec: C. F. Morrison, 1250 Waldemere, Indianapolis, and Paul and H. Little. (238)

Clermont, Ind., DE LUXE D. I. Exec: Paul Boatman, Veedersburg. (325)

Clinton, Ind., CLINTON D. I. (Newport). Exec: Joe Million, Buyer, and J. F. Carlin. (450)

Cloverdale, Ind., O.-C. MIDWAY D. I. (Greencastle), Junction Rts. 40-43, R.R. 1. Exec: Frank Ogles. (250)

Columbus, Ind., DRIVE IN. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (500)

Connersville, Ind., CONNERSVILLE D. I., 2 Mi. W. of City. Exec: R. Harrold, J. R. Pell, Rushville, and Affiliated Ths. Inc., Illinois Bldg., Indianapolis. (400)

Corydon, Ind., SKYAIRE D. I. Exec: T. Goodman Ct. (250)

Crawfordsville, Ind., BEN HUR D. I. Exec: Bert Rayburn, and Jack Cook. (700)

Crawfordsville, Ind., C-VILLE D. I. Exec: Bert Rayburn, and Jack Cook. (400)

Decatur, Ind., DRIVE IN. Exec: Decatur Dr.-In Th., Inc., and Affiliated Ths., Ind., Illinois Bldg. Indianapolis. (400)

Elletsville, Ind., SUNDOWN D. I. Exec: T. G. Cramer, R.R. #3, Martinsville. (425)

Elwood, Ind., DRIVE IN. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (500)

Evansville, Ind., FAMILY D. I., 2810 S. Kentucky Ave., R.P. #128. Exec: Ted Graulich, R.R. 10. (400)

Evansville, Ind., SMARTEST INDOOR-OUTDOOR D. I., Soonerville Hwy. Exec: Harry N. Coleman, R.R. #6. (600)

Evansville, Ind., SUNSET D. I., P. O. Box 2038, Sta. D. Exec: Joe J. Nickolick. (600)

Evansville, Ind., WESTSIDE D. I. Exec: John H. Koewler, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (750)

Fort Wayne, Ind., EAST 30 D. I. Exec: Brailey-Browning, Inc. and United Film Booking Serv., Illinois Bldg., Indianapolis. (800)

Fort Wayne, Ind., FORT WAYNE D. I., 5800 Bluffton Rd. Exec: Brailey-Browning, Inc. and United Film Booking Serv., Illinois Bldg., Indianapolis. (712)

Fort Wayne, Ind., HILLCREST D. I., R.R. 10, Tillman Rd. Exec: Charles Loudenslager, and Indianapolis Co-Op Ths. (500)

Fort Wayne, Ind., LINCOLNDALE D. I. Exec: United Film Booking Serv., Illinois Bldg., Indianapolis, and Brailey-Browning, Inc. (850)

Fort Wayne, Ind., SUNSET AUTO D. I. Exec: Brailey-Browning, Inc. and United Film Booking Serv., Illinois Bldg., Indianapolis. (600)

Fountaintown, Ind., MOONLITE D. I., Hwy. 52. Exec: Irving Tamler, 3557 Watson Rd., Indianapolis. (350)

Frankfort, Ind., OUTDOOR D. I. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (500)

Garrett, Ind., TRI-HI D. I., Box 149. Exec: C. A. Kalafat. (300)

Geneva, Ind., LIMBERLOST D. I. Exec: Clyde Nihiser. (200)

Georgetown, Ind., GEORGETOWN D. I., R.R. #3, Jeffersonville. Exec: Harry S. Miller, and Edward Campbell Ct. (300)

Greenfield, Ind., NATIONAL OUTDOOR D. I., Hwy. 40. Exec: Jacob M. Smiler, and United Film Booking Serv., Illinois Bldg., Indianapolis. (1000)

Greenwood, Ind., GREENWOOD D. I., R.R. #3. Exec: M. D. Brazee, R.R. #3, P. O. Box 200A. (763)

Greenwood, Ind., MERIDIAN ST. D. I., Hwy. 431. Exec: Four Way Ths., and Morrison Ct. (300)

Hartford City, Ind., BLACKFORD D. I. Exec: Scheidler Th. Co. (350)

Huntington, Ind., HUNTINGTON D. I. Exec: Gail Lancaster, Huntington Amuse. Co., and Affiliated Ths., Inc., Illinois Bldg., Indianapolis. (500)

Indianapolis 4, Ind., LAFAYETTE RD. D. I., 922 N. Penn. Exec: Cantor Amuse., Inc. (1000)

Indianapolis, Ind., SHADELAND D. I. Exec: Cantor Amuse., Inc., 922 Pennsylvania St. (1000)

Indianapolis, Ind., TWIN D. I. Exec: Dr. Marvin Sandorf. (1800)

Indianapolis, Ind., WEST LAKE D. I., 600 N. High School Rd. Exec: Earl Bell. (1000)

Indianapolis, Ind., WESTSIDE OUTDOOR D. I. Exec: Forrest Songer, Veedersburg, and Morrison Ct. (1000)

Jasper, Ind., FAMILY D. I. Exec: Raymond Schmitt, and Midway Amuse. Co. (400)

Jeffersonville, Ind., THEATAIR D. I. Exec: K. McAllister and Robert Harned, R.R. #2. (232)

Kendallville, Ind., HI-VUE D. I. Exec: Robert L. Hudson, Hudson Ent., Inc., 621 Main St., Richmond. (400)

Knox, Ind., MELODY D. I., Rt. 3. Exec: J. R. Hand. (400)

Kokomo, Ind., NORTH D. I. (Peru), Hwy. 54. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (520)

Kokomo, Ind., SOUTH D. I. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (520)

Lafayette, Ind., EASTSIDE D. I., Hwy. 26. Exec: Fourth Ave. Amuse. Co., Francis Bldg., Louisville, Ky. (450)

Lafayette, Ind., WEST SIDE D. I. Exec: Fourth Ave. Amuse. Co., Francis Bldg., Louisville, Ky. (450)

Lawrence, Ind., PENDLETON PIKE D. I. (Formerly Lawrence), Pendleton Pike, P. O. Box 202. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (500)

Linton, Ind., DRIVE IN. Exec: Charles R. Cassida. (300)

Logansport, Ind., SKYLINE D. I., R.R. 17. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (500)

Madison, Ind., SKYLINE D. I., R.R. #5. Exec: Elmer Sohowe. (400)

Marion, Ind., HIGHWAY D. I., 26th and Bypass. Exec: Ralph Mareuccilli and Guy Bove, and Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (500)

Marion, Ind., MARIONAIR D. I., 620 W. 3rd St. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (500)

Martinsville, Ind., MARTINSVILLE D. I. Exec: Campbell Ct. (300)

Maywood, Ind., BEL AIR D. I., Rt. 67 and Tibbs Ave. Exec: Earl Bell. (200)

Mechanicsburg, Ind., FRANKFORT-LEBANON D. I. Exec: Harry Ziegler. (150)

Monticello, Ind., DRIVE IN, P. O. Box 222, Rt. 1. Exec: H. A. Taylor. (400)

Mooresville, Ind., WHEEL-IN D. I., Hwy. 67. Exec: Pete Fortune, Indianapolis Co-Op Ths., Indianapolis. (350)

Muncie, Ind., MUNCIE D. I., R.R. #6. Exec: Y and W Mgt. Corp, Illinois Bldg., Indianapolis. (600)

Muncie, Ind., SKY HI D. I., Rt. 3 and 28. Exec: Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (508)

New Albany, Ind., DRIVE IN. Exec: Schuler Baird. (800)

New Castle, Ind., SKY DROME D. I., Spiceland Rd. Exec: Marc Wolf and Mendelssohn Ent., 2741 Central St., Indianapolis, and United Film Booking Serv., Illinois Bldg., Indianapolis. (500)

Noblesville, Ind., NOBLESVILLE D. I., P. O. Box 57. Exec: James Ackron, Twilite Ths. (400)

Oakland City, Ind., OAKLAND D. I. Exec: Siegel Thurman. (350)

Osgood, Ind., BEL AIR D. I. (Versailles)., U.S. #421. Exec: Paul Kelly. (250)

Paoli, Ind., DRIVE IN., Rt. 2. Exec: James and Gladys Dunn, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (300)

Peru, Ind., MIAMI D. I. Exec: Allianee Th. Corp., 230 S. Clark St., Chicago, Ill. (500)

Plymouth, Ind., TRI-WAY D. I., Hwy. 31. Exec: Wolf and Marcus, and Y and W Mgt. Corp., Illinois Bldg., Indianapolis. (500)

Portland, Ind., BEACON D. I. Exec: W. Richard Norton, Red Key, and Affiliated Ths., Inc., Illinois Bldg., Indianapolis. (600)

Portland, Ind., SKY-VUE D. I. (Fort Wayne). Exec: Mallers Bros., 1014 Calhoun St., Fort Wayne. (300)

Princeton, Ind., STARLITE D. I., Hwy. 41 South. Exec: Princeton Drive-In Corp., and Affiliated Ths., Inc., Illinois Bldg., Indianapolis. (400)

Richmond, Ind., BEL AIR D. I. Exec: Floyd M. Burdett. (350)

Richmond, Ind., NATIONAL HI-WAY D. I. Exec: Hudson Ths. Co. (600)

Rochester, Ind., LAKE SHORE D. I., Box 253. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (375)

Rockville, Ind., FAMILY D. I. Exec: Forrest Songer. (300)

Salem, Ind., SALEM D. I. Exec: Mrs. Carl Ellis, and Ornstein Ct., 427 S. 3rd St., Louisville, Ky. (450)

Scottsburg, Ind., MOON-GLO D. I. Exec: Mrs. Ethel Walsh, Scott Amuse. Co. (400)

Seeleyville, Ind., CORRAL D. I., Hwy. 40. Exec: F. O. Hilligoss, Plainfield. (600)

Seymour, Ind., STAR DUST D. I. Exec: C. W. Massy, R.R. #2, Stardust Ths. (400)

Shelburn, Ind., SHELBURN D. I. Exec: Carl Himebrook. (300)

Shelbyville, Ind., SHELBY D. I., P. O. Box 309. Exec: R. L. Fitzwater. (400)

Shelbyville, Ind., SKYLINE D. I. Exec: Worland and Waltz, and United Film Booking Serv., Illinois Bldg., Indianapolis. (500)

Sullivan, Ind., SULLIVAN D. I., Rt. 33-21, R.F.D. #4. Exec: Y and W Mgt Corp.., Illinois Bldg., Indianapolis. (350)

Tell City, Ind., STARLITE D. I. (Cannelton), R.R. #2. Exec: W. A. Spear, P. O. Box 141, and Edward Campbell Ct. (300)

Terre Haute, Ind., EAST D. I., R.R. 5. Exec: Alliance Th. Corp., 231 S. Clark St., Chicago, Ill. (200)

Terre Haute, Ind., NORTH D. I., N. Lafayette Ave., R.R. 7, Box 107-A. Exec: M. W. and M. Ent., and United Film Booking Serv., Illinois Bldg., Indianapolis. (600)

Veedersburg, Ind., DRIVE IN. Exec: Joe Million. (250)

Vincennes, Ind., ALLISON D. I., St. Rd. 50 W., Box 668. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (480)

Vincennes, Ind., KNOX D. I. Exec: Alliance Th. Corp., 230 S. Clark St., Chicago, Ill. (600)

Wabash, Ind., 13-24 D. I., Hwy. 13. Exec: Trueman T. Rembusch, Syndicate Ths. Ct., Franklin. (600)

Warsaw, Ind., WARSAW D. I. Exec: Nick Mallers, 1014 Calhoun St., Fort Wayne. (400)

Warsaw, Ind., WARSAW D. I. Exec: Nick Mallers, 1014 Calhoun St., Fort Wayne. (400)

Washington, Ind., EAST 50 D. I. Exec: S. J. Switow, M. Switow and Sons Ents., 651 S. 4th St., Louisville, Ky. (300)

Winchester, Ind., AIRLINE AUTO D. I., P. O. Box 230. Exec: Mike Make. (400)

Kentucky

(NOTE: See also Atlanta, Cincinnati, Memphis and Saint Louis Territories)

Bardstown, Ky., GYPSY D. I. Exec: Ornstein C., 427 S. 3rd St., Louisville, and Mrs. Roy Hahn. (250)

Bowling Green, Ky., LOST RIVER D. I., South on U.S. 31-M. Exec: Davis Duff, and J. E. Thompson. (600)

Bowling Green, Ky., RIVERSIDE D. I. Exec: David Duff, and J. E. Thompson. (456)

Bowling Green, Ky., SUNSET D. I. Exec: David Duff, and J. E. Thompson. (400)

Brownsville, Ky., SKYLINE D. I. Exec: George Lindsey. (125)

Campbellsville, Ky., CAMPBELLSVILLE D. I. Exec: Whitlock and Kemp. (300)

Central City, Ky., TWILITE D. I., Box 147. Exec: E. Blincoe. (265)

Clay, Ky., TWILITE D. I., Box 531. Exec: Rand Barker. (150)

Columbia, Ky., ADAIR D. I. Exec: O. G. Roaden. (300)

Dawson Springs, Ky., PARKWAY D. I. Exec: Ed Simons, and Ornstein Ct., 427 S. 3rd St., Louisville. (150)

Elizabethtown, Ky., KNOX D. I. Exec: W. R. Holder, Elizabethtown Amuse. Co. (300)

Elizabethtown, Ky., STARLIGHT D. I., Vine Grove Rd. Exec: Robert Enoch. (300)

Glasgow, Ky., STAR D. I., P. O. Box 445. Exec: Bruce Aspley and Affiliated Ths., Inc., Illinois Bldg., Indianapolis, Ind. (500)

Greensburg, Ky., SKYLINE D. I. Exec: R. Phillips. (300)

Harned, Ky., SKYLINE D. I. Exec: Luther Herron, Kingsville, and Ornstein Ct., 427 S. 3rd St., Louisville. (67)

Hopkinsville, Ky., B AND W D. I., Hwy. 49. Exec: George Edwards and Shelby McCollum. (500)

Hopkinsville, Ky., SKYWAY D. I. Exec: Baker Booking, 2347 Central Ave., Indianapolis, Ind. (380)

Horse Cave, Ky., TWIN CITY D. I. Exec: Ornstein Ct., 427 S. 3rd St., Louisville, and Kenneth Bale. (400)

Lebanon, Ky., DRIVE IN, Hwy. 49. Exec: C. C. Sims, and Ornstein Ct., 427 S. 3rd St., Louisville. (300)

Louisville, Ky., DIXIE D. I. (Shivley), Hwy. 60. Exec: J. Shinbach. (785)

Louisville, Ky., EAST D. I. (St. Matthews), Hwy. 31. Exec: J. Shinbach. (590)

Louisville, Ky., KENWOOD D. I., 7001 Southside Dr. Exec: Wilbur Fields. (800)

Louisville, Ky., PARKWAY D. I., Box 480, Rt. 5. Exec: M. Brazee. (650)

Louisville, Ky., PRESTON D. I. Exec: S. J. Switow, M. Switow and Sons Ents., 651 S. 4th St. (400)

Louisville, Ky., SKYWAY D. I. Exec: Louis Arru. (650)

Louisville, Ky., TWILITE D. I., 4015 Crittenden Dr. Exec: Louis Arru. (1000)

Morganfield, Ky., BROADVIEW D. I., Rt. 3. Exec: Edward Campbell Ct. (375)

Owensboro, Ky., CARDINAL D. I. Exec: James Stout, Jr. (500)

Owensboro, Ky., FAMILY D. I. Exec: E. M. Blincoe. (100)

Owensboro, Ky., OASIS D. I. Exec: Virgil Jennings. (100)

Owensboro, Ky., PARKWAY D I., Rt. 2. Exec: J. W. Blincoe. (100)

Owensboro, Ky., STARLIGHT D. I. Exec: Baker Booking Serv., Chamber of Commerce Bldg., Indianapolis, Ind. (400)

Russellville, Ky., DRIVE IN. Exec: S. McCollum. (300)

Seebree, Ky., SKYTOP D. I. Exec: O. B. Smith. (150)

Springfield, Ky., BEL VISTA D. I. Exec: Ball and Wheatley, and Edward Campbell Ct. (300)

Waverly, Ky., SUNSET D. I. (Morganfield). Exec: J. S. Corbett, and Ornstein Ct., 427 S. 3rd St., Louisville. (350)

Ohio

(NOTE: See also Cincinnati and Cleveland Territories)

New Westville, O., JAMES AUTO D. I. Exec: Hudson Ths., Richmond, Ind. (586)

JACKSONVILLE TERRITORY

Florida

(NOTE: See also Atlanta and New Orleans Territories)

Altamonte Springs, Fla., PRAIRIE LAKE D. I. Exec: J. R. Partlow. (685)

Apalachicola, Fla., #1 D. I. Exec: T. J. Nichols. (150)

Arcadia, Fla., DeSOTO D. I. Exec: George H. West, Jr. (250)

Auburndale, Fla., DALE D. I., P. O. Box 331. Exec: M. E. Hensler. (200)

Auburndale, Fla., TWINKLE STAR D. I. (Colored), Hwy. 92. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (200)

Baldwin, Fla., 90 D. I. Exec: R. E. Totman. (150)

Bartow, Fla., OUTDOOR D. I. Exec: Mrs. J. E. Raulerson, Rt. 5, Box 3, Lakeland. (300)

Belle Glades, Fla., BEND D. I. (Colored). Exec: Gold-Dobrow, % Prince Ths., Pahokee. (99)

Belle Glades, Fla., LAKE D. I. Exec: Gold-Dobrow, % Prince Th., Pahokee. (250)

Blountstown, Fla., BAILEY'S D. I. Exec: Ralph Bailey. (250)

Blountstown, Fla., BLOUNTSTOWN D. I. Exec: Joe Durhan, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

Bradentown, Fla., BRADENTON D. I., 2305 9th St., W. Exec: Raymond Combs. (219)

Bradenton, Fla., SUBURBAN OPEN AIR D. I. Exec: David R. Brown, and Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (600)

Brooksville, Fla., 41 D. I. Exec: W. Howard Smith, %Dixie Th. (200)

Bushnell, Fla., SUMTER D. I. Exec: Charles T. Rook. (340)

Chattahoochee, Fla., DIXIE D. I. Exec: C. S. Dunn, Gibson Th. (180)

Chipley, Fla., STARLITE D. I. Exec: I. Roche, % Vernon Th., Vernon. (150)

Clearwater, Fla., GULF TO BAY D. I. Exec: S. E. Shingler, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (400)

Clearwater, Fla., OUTDOOR D. I., Hwy. 19. Exec: Julia Raulerson, Rt. 5, Box 3, Lakeland. (302)

Clermont, Fla., CLERVUE D. I. Exec: Hugh Martin, P. O. Box 1656, Columbus, Ga., and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (250)

Clewiston, Fla., SUGARLAN D. I. Exec: Thomas E. Markette, Home Appliance Co. (350)

Cocoa, Fla., COCOA D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (270)

Cocoa, Fla., SKYVIEW D. I. (Colored). Exec: S. M. Blackman, and F. L. Stowe, P. O. Box 6477, Jacksonville. (100)

Dade City, Fla., JOY LAN D. I. Exec: Carl Floyd, Florida Th., Haines City. (396)

Dania, Fla., DANIA D. I., Dania Beach Rd., P. O. Box 478. Exec: Ochs Mft. Co. (400)

Daytona Beach, Fla., NEPTUNE D. I. Exec: Harris Robinson, Dixie Dr.-In Ths., Walton Bldg., Atlanta, Ga. (504)

Daytona Beach, Fla., VOLUSIA D. I., Deland Rd., 1000 Volusia Ave. Exec: Carl Floyd, Florida Th., Haines City. (375)

Defuniak Springs, Fla., HIWAY 90 D. I., P. O. Box 66. Exec: J. Harrell, Martin Ths., 113 Walton Blvd., P. O. Box 1083, Atlanta, Ga. (110)

Deland, Fla., BOULEVARD D. I., P. O. Box 180. Exec: Carl Floyd, Florida Th., Haines City. (400)

Deland, Fla., DIXIE D. I. Exec: Eugene Wulfekuhler, and Floyd Stowe, P. O. Box 6477, Jacksonville. (260)

Delray Beach, Fla., DELRAY D. I., Box 2304. Exec: Paul Mize, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (412)

Dover, Fla., PLANT CITY D. I. Exec: C. C. Blake, and Exhibitors Serv. Co., 209 Guaranty Life Bldg, Jacksonville. (300)

Eau Gallie, Fla., BREVARD D. I. (Melbourne). Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Eustis, Fla., MOVIE GARDEN D. I. Exec: Hugh Martin, P. O. Box 1656, Columbus, Ga., and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (400)

Fernandina, Fla., DRIVE IN, State Hwy. 200. Exec: C. E. Beach, and Mrs. M. Stith, P. O. Box 436, Atlanta, Ga. (285)

Fort Lauderdale, Fla., BROWN D. I. (Colored), 657 N.W. 24th Ave. Exec: Mrs. Roxa Brown, and F. L. Stowe, P. O. Box 6477, Jacksonville. (310)

Fort Lauderdale, Fla., HIWAY D. I., S. Federal Hwy., Carrier 45. Exec: Arthur Ainsworth, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (700)

Fort Lauderdale, Fla., LAUDERDALE D. I., 2695 W. Broward Blvd. at Wingate Rd. Exec: Phil C. Mathews, and F. L. Stowe, P. O. Box 6477, Jacksonville. (500)

Fort Lauderdale, Fla., NORTH ANDREWS D. I., 4200 N. Andrews Ave. Exec: Wometco Ths., 306 N. Miami Ave., P. O. Box 2440, Miami. (460)

Fort Myers, Fla., CITY D. I. Exec: Robert Blatchy, Lee Th. (338)

Fort Myers, Fla., FT. MYERS D. I., P. O. Box 2067. Exec: S. J. Feiger, and Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (500)

Fort Myers, Fla., STARLITE D. I., Hwy. 80. Exec: M. Solomon, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (350)

Fort Pierce, Fla., DRIVE IN, P. O. Box 350. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (500)

Gainesville, Fla., GAINESVILLE D. I. (McIntosh). Exec: Lester Sipe. (406)

Gainesville, Fla., SURBURBIA D. I., Rt. 50. Exec: Shafer Ths., Inc., and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (700)

Grand Ridge, Fla., APALACHEE D. I. Exec: J. A. and Tony Howell, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

Greensboro, Fla., SUBURBAN D. I. Exec: Wright Sanders. (200)

Haines City, Fla., LAKE HAINES D. I., P. O. Box 367. Carl Floyd, Floyd Th. (350)

Hallandale, Fla., HALLANDALE D. I., Box 278. Exec: S. Arthur Ashworth, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (500)

Hernando, Fla., CITRUS D. I. Exec: J. W. Mullin. (200)

High Springs, Fla., HIGH SPRINGS D. I., P. O. Box 96. Exec: R. C. Mullis. (200)

Hollywood, Fla., WEST HOLLYWOOD D. I. Exec: Frank Krickler. (250)

Homestead, Fla., BREEZEWAY D. I., Box 65. Exec: C. B. Chambers. (350)

Hosford, Fla., HOSFORD D. I. Exec: Wright Sanders. (110)

Indian River City, Fla., RIVERVIEW AUTO D. I. Exec: Don Sissons. (200)

Jacksonville 1, Fla., ATLANTIC D. I. Exec: Harris Robinson, Dixie Dr.-In Ths., Walton Bldg., Atlanta, Ga. (361)

Jacksonville 8, Fla., LAKE FOREST D. I., 7805 Laura St. Exec: Mrs. June Fairclath. (250)

Jacksonville, Fla., MAIN ST. D. I., P. O. Box 3204, Sta. F. Exec: Fred Kent, Jacksonville Th. Co. (700)

Jacksonville 5, Fla., NORMANDY D. I., 5003 Normandy Blvd., P. O. Box 6823. Exec: Loew's Ths., Inc., 1540 Broadway, New York 36, N. Y. (1010)

Jacksonville, Fla., OCEANWAY D. I. Exec: G. W. Watson, Jr. (200)

Jacksonville, Fla., PINECREST D. I., Rt. 2, Box 209. Exec: H. G. Vige, and ABC Theatrical Ent., P. O. Box 88. (354)

Jacksonville, Fla., RIBAULT D. I., 139 W. State St. Exec: Carl Carter. (350)

Jacksonville, Fla., SKYVIEW D. I. (Colored), 1887 Kings Rd. Exec: National Th. Ent., and Art Rothschild, P. O. Box 4729. (375)

Jacksonville, Fla., SOUTHSIDE D. I., P. O. Box 3204, Sta. F. Exec: Fred Kent, Jacksonville Th. Co. (600)

Jacksonville Beach, Fla., BEACH D. I., New Beach Rd. Exec: Fred Kent, Jacksonville Th. Co., Jacksonville. (450)

Keystone Heights, Fla., LEE'S D. I. Exec: William Lee. (100)

Key West, Fla., ISLANDER D. I., Stock Island. Exec: Joseph Sirugo. (650)

Kissimmee, Fla., KISSIMMEE D. I. Exec: H. G. Ventry, and S. E. McDaniel, Marianna. (400)

Lacoochee, Fla., WONDERLAND D. I. (Colored). Exec: C. E. Ritter, and Herman Ritter. (130)

Lakeland, Fla., FILMLAND D. I. Exec: Joe Floritta, William Klem, and Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (500)

Lakeland, Fla., LAKELAND D. I., South Florida Ave. Exec: Charles W. Murrell. (456)

Lakeland, Fla., SILVERMOON D. I., Hwy. 92, P. O. Box 337. Exec: Carl Floyd, Florida Th., Haines City. (400)

Lake City, Fla., LUNAR D. I. Exec: R. E. Cannon, Cannon Th. Co., P. O. Box 641, Live Oak. (200)

Lake Wales, Fla., WALES D. I., P. O. Box 591. Exec: Leslie Pendleton, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Lake Worth, Fla., DIXIE SKYDOME D. I., 2515 N. Dixie Hwy. Exec: Wometco Ths., 306 N. Miami Ave., P. O. Box 2440, Miami. (600)

Largo, Fla., PALM D. I. Exec: H. J. Knight. (400)

Leesburg, Fla., CREST D. I. Exec: Hugh Martin, M and M Ths., P. O. Box 1656, Columbus, Ga., and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (314)

Live Oak, Fla., NOVA D. I. Exec: R. E. Cannon, Cannon Ths., P. O. Box 641. (200)

Lockhart, Fla., RI-MAR D. I. (Orlando). Exec: Martin and Manning, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (500)

Madison, Fla., MADISON D. I. Exec: R. F. Mackes. (250)

Marianna, Fla., MACKS EAST D. I. Exec: S. E. McDaniel. (232)

Marianna, Fla., MACKS WEST D. I. Exec: S. E. McDaniel, % Macks East D. I. (250)

Melbourne, Fla., OUTDOOR D. I. Exec: Talgar Ths., 401 Guaranty Life Bldg., Jacksonville. (300)

Miami 30, Fla., BOULEVARD D. I. (North Miami), 14311 143rd St., Box 2440. Exec: Wometco Ths., 306 N. Miami Ave., P. O. Box 2440. (1000)

Miami 44, Fla., CORAL WAY D. I., 7080 Coral Way (S.W. 24th St.). Exec: Wometco Ths., 306 N. Miami Ave., P. O. Box 2440. (249)

Miami, Fla., LeJEUNE D. I., 1201 N. W. 42nd Ave. Exec: Nate Bernstein, Dixie Th. (700)

Miami, Fla., LIB-CITY and 22ND AVE. D. I. (Colored and White Respectively), N.W. 22nd Ave. and 69th St. Exec: Leon Task. (700)
(350 Cars and 350 Seats in each D. I.)

Miami, Fla., MIAMI D. I., 705 N. W. 81st St., P. O. Box 157. Exec: Phil Berler, E. M. Loew Ct., 175 Huntington St., Boston, Mass. (600)

Miami 43, Fla., TROPICAIRE D. I., 7751 Bird Rd., Rt. 5, Box 1340. Exec: Ed Campbell. (700)

Miami, Fla., TURNPIKE D. I. Exec: Nate Bernstein, Dixie Th. (800 and 200 Seats)

Miami, Fla., 27TH AVENUE D. I., 2780 N. W. 87th St. Exec: Wometco Ths., 306 N. Miami Ave., P. O. Box 2440. (650)

Monticello, Fla, PUGS D. I., Hwy. 149. Exec: T. W. Reed, and A. J. Gaskin, and S. E. McDaniel, Marianna. (200)

Mulberry, Fla, FRAN-LIN D. I. Exec: ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

Naples, Fla., TRAIL D. I. Exec: Peter Flontek. (300)

New Port Richey, Fla., BREEZEWAY D. I., P. O. Box 728. Exec: A. H. Stevens, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (200)

New Smyrna, Fla., PINECREST D. I. Exec: Jack Kincheloe, Wilbur Farnell, and Exhibitors Serv. Co., 209 Guaranty Life Bdg., Jacksonville. (316)

Ocala, Fla., OCALA D. I., Rt. 5, Box 364. Exec: Ray Rogers. (500)

Ocala, Fla., SKYLARK D. I., Rt. 4, Box 581. Exec: W. Howard Smith, % Dixie Th., Brooksville. (400 and 50 Seats)

Okeechobee, Fla., OKEECHOBEE D. I. Exec: R. F. Mackes. (102)

Orange Lake, Fla., ORANGE LAKE D. I. Exec: Mrs. Virginia Durkee. (106)

Orange Park, Fla., AIR BASE D. I. (Jacksonville), 139 W. State St. Exec: C. J. Carter. (425)

Orlando, Fla., COLONIAL D. I. Exec: Colonial Plaza Dr.-In Ths., Inc., P. O. Box 1962, Jacksonville, and Horace Demming. (550)

Orlando, Fla., KUHL AVENUE D. I., 2400 S. Kuhl. Exec: J. A. Partlow, % Prairie Lake D) I., Altamonte Springs. (875.

Orlando, Fla., ORLANDO D. I., 1001 S. Orange Blossom Trail, Box 1214. Exec: Harris Robinson, Dixie Dr.-In Ths., Walton Bldg., Atlanta, Ga. (298)

Orlando, Fla., PINE HILL D. I. Exec: Carl Floyd, Florida Th., Haines City. (650)

Orlando, Fla., WASHINGTON SHORES D. I. (Colored). Exec: Harold Degrau, and F. L. Stowe, P. O. Box 6477, Jacksonville. (200)

Palatka, Fla., LINDA D. I. Exec: A. H. Gowthrop, and F. L. Stowe, P. O. Box 6477, Jacksville. (400)

Palmetto, Fla., PALMETTO D. I., Hwy. 541, Bayshore Rd., R.F.D. #1. Exec: Roy Jones. (390)

Panama City, Fla., BUD DAVIS D. I., 15th St. on Hwy. 98, Box 1016. Exec: Bud Davis. (480)

Panama City, Fla., GULF D. I. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (800)

Panama City, Fla., ISLE OF VIEW D. I. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (300)

Panama City, Fla., WAYSIDE D. I. Exec: J. Harrell, Martin Ths., 113 Walton Bldg., Atlanta, Ga. (480)

Perrine 43, Fla., DIXIE D. I. (Miami), Rt. 2, P. O. Box 675. Exec: Ed Campbell, Tropicaire D. I., Miami. (540)

Perry, Fla., COMMUNITY OUTDOOR D. I. Exec: Kay Porter, % Temple Th. (200)

Perry, Fla., PERRY D. I. Exec: Gwendolyn Allen, Rt. 3, Box 1047, Jacksonville. (200)

Plant City, Fla., STARLITE D. I. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (290)

Pompano, Fla., POMPANO D. I. Exec: L. L. Overton. (400)

Port St. Joe, Fla., ST. JOE D. I. Exec: Martin and Davis, J. Harrell, Martin Ths., 113 Walton Bldg, Atlanta, Ga. (250)

Punta Gorda, Fla., CHARLOTTE HARBOR D. I. Exec: Charles W. Tracy. (300)

Riviera Beach, Fla., PALM BEACH OUTDOOR D. I. Exec: Nate Bernstein, and R. E. Clyman, Dixie Th., Miami. (400)

Saint Augustine, Fla., BEACH D. I., P. O. Box 1491. Exec: George Kaniaris. (550)

Saint Augustine, Fla., SAN MARCO D. I. Exec: Dane Huff. (350)

Saint Petersburg, Fla., 4TH STREET D. I., 4th St. and 72nd Ave Exec: Florida State Ths., Florida Th. Bldg., Jacksonville. (400)

Saint Petersburg, Fla., GARDEN D. I., Tyrone and Park, Box 1226, Sta. A. Exec: Mark Cummins. (400)

Saint Petersburg, Fla., SKYVUE D. I. Exec: K. T. Barfield. (600)

Saint Petersburg, Fla., 28TH STREET D. I. Exec: Pete Sones, Sam Wilson, and Carl Floyd, Florida Th., Haines City. (600)

Sanford, Fla., MOVIELAND D. I., Sanford-Orlando Hwy., P. O. Box 70. Exec: C. R. Shirard and Dr. Brantley, and Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (440)

Sanford, Fla., COLORED D. I. Exec: H. F. Cushing, Midstate Th. Corp., and Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (314)

Sarasota, Fla., SIESTA D. I. Exec: Ochs Mgt. Co. (450)

Sarasota, Fla., TRAIL D. I., N. Tamiami Trail. Exec: Jack Hunt, and F. L. Stowe, P. O. Box 6477, Jacksonville. (655)

Sebring, Fla., SEVON D. I. Exec: Carl Floyd, Florida Th., Haines City. (300)

South Daytona Beach, Fla., #1 D. I., P. O. Box 4126. Exec: Mrs. B. Bow, and Ray Dunn. (651)

Stuart, Fla., DRIVE IN. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (290)

Tallahassee, Fla., CAPITOL D. I., Apalachicola Hwy. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (348)

Tallahassee, Fla., LINCOLN D. I. (Colored), Lincoln Hwy., Rt. 4, Box 515. Exec: Bailey Ct., 85 Decatur St., Atlanta, Ga. (200)

Tallahassee, Fla., OUTDOOR D. I., Box 959. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (480)

Tampa, Fla., AUTO PARK D. I., 3600 22nd St., Causeway Blvd., Rt. 3, Box 1079. Exec: Ochs Mgt. Co. (500)

Tampa, Fla., BUFFALO D. I. (Colored). Exec: Dale Elleman, 2214 E. Ellicott St. (450)

Tampa, Fla., COLUMBUS D. I. (Colored). Exec: Bailey Ths., 85 Decatur St., Atlanta, Ga. (275)

Tampa, Fla., DALE MABRY D. I., Dale Mabry Hwy. and Gandy Blvd. Exec: Pete Sones, Sam Wilson, and Carl Floyd, Florida Th., Haines City. (700)

Tampa, Fla., FLORILAND D. I., P. O. Box 9096. Exec: H. Hamner, and R. E. Morales. (400)

Tampa, Fla., 40TH ST. D. I. Exec: Ochs Mgt. Co. (630)

Tampa, Fla., FUN LAN D. I., 22nd St. and E. Hillsboro. Exec: Pete Sones, Sam Wilson, and Carl Floyd, Florida Th., Haines City. (650)

Tampa, Fla., HILLSBORO D. I., W. Hillsboro and Lincoln Rd. Exec: Florida State Ths., Florida Th. Bldg., Jacksonville. (650)

Tampa 1, Fla., SKYWAY D. I., 11805 N. Florida Ave., P. O. Box 1095. Exec: J. S. Carscallen. (416)

Tampa, Fla, TOWER D. I. Exec: Carl Floyd, Florida Th., Haines City. (600)

Tampa, Fla., 20TH CENTURY D. I., 2900 N. Dale. Exec: Jim Poindexter, C. H. Mosley, and R. E. Morales, 1210 E. Powhatten Ave. (500 and 300 Seats)

Tarpon Springs, Fla., MIDWAY D. I. Exec: Carl Floyd, Florida Th., Haines City. (290)

Venice, Fla., TROPICAL D. I. Exec: James W. Ponder, and ABC Theatrical Ent., P. O. Box 88, Jacksonville. (250)

Vero Beach, Fla., DRIVE IN, P. O. Box 368. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (270)

Vero Beach, Fla., HARLEM D. I. (Colored). Exec: Exhibitors Serv. Co., 209 Guaranty Life Bldg., Jacksonville. (311)

Wauchula, Fla., STAR-LITE D. I., Rt. 17. Exec: Carl Floyd, Florida Th., Haines City. (250)

West Palm Beach, Fla., BOULEVARD D. I., S. Blvd. and Haverhill Rd. Exec: Clyde N. Hall. (575)

Wintergarden, Fla., STARLITE D. I. Exec: Carl Floyd, Florida Th., Haines City. (250)

Winter Haven, Fla., OUTDOOR D. I., Hwy. 17, Box 784. Exec: Talgar Ths., Lakeland, and Glenn Gryder, 401 Guaranty Life Bldg., Jacksonville. (300)

Winter Park, Fla., WINTER PARK D. I. Exec: Harris Robinson, Dixie D. I. Th. Ct., Walton Bldg., Atlanta, Ga. (700)

Georgia

(NOTE: See also Atlanta Territory)

Adel, Ga., RIO D. I. Exec: J. J. Parrish, % Jaroy Co. (200)

Adel, Ga., SPARDEL D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (327)

Alma, Ga., FAMILY D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (250)

Ashburn, Ga., JOY D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (200)

Hazelhurst, Ga., TRAIL D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (200)

Lakeland, Ga., FOUNTAIN D. I. Exec: Al Rook Booking Agy., Atlanta, Ga. (200)

Nashville, Ga., MIDWAY D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (200)

Sylvester, Ga., WORTH D. I. Exec: Lou Leffler, Stein Ct., 211 E. Forsyth St., Jacksonville, Fla. (200)

KANSAS CITY TERRITORY

Arkansas

(NOTE: See also Memphis, New Orleans and Oklanoma City Territories)

Fayetteville, Ark., 71 D. I. (Springdale), P. O. Box 56, University Sta. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (390)

Rogers, Ark., TWIN CITY D. I., P. O. Box 351. Exec: Harry Nichols, Ozark Ths., Inc. (300)

Sulphur Springs, Ark., BIG SOMBRERO AIR DOME D. I., Mo.-Ark. State Line. Exec: Mrs. J. B. Coverton. (40 and 10 Seats)

Kansas

Abilene, Kan., TRAILS END D. I. Exec: Bob and Calvin Strowig. (300)

Alton, Kan., DRIVE IN. Exec: Earl Ritchie. (98)

Anthony, Kan., STAR VUE D. I., Hwy. 160. Exec: Mrs. Hazel Droz. (275)

Arkansas City, Kans., ARK-VUE D. I. Exec: Gene Bullard. (400)

Arkansas City, Kan., 166 D. I., Hwy. 166. Exec: Fred Munson. (400)

Atchison, Kan., FRONTIER D. I. Exec: Charles Potter. (350)

Atwood, Kans., DRIVE IN, Hwy. 36. Exec: Arden Holthus. (260)

Augusta, Kan., AUGUSTA D. I., Hwy. 96. Exec: Mrs. D. A. Bisagno, and Augusta Dr.-In Th. Co. (300)

Baxter Springs, Kans., TWILITE D. I. Exec: Louis Stein. (300)

Belleville, Kans., BLAIR D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (250)

Beloit, Kan., FIESTA D. I. Exec: Mid-central Ths. (300)

Caldwell, Kans., BI-STATE D. I. Exec: F. L. Horton. (300)

Caney, Kan., CANDY VALLEY D. I., Hwy. 166. Exec: C. Gregg. (316)

Chanute, Kan., NEOCHA D. I. Exec: Ray Walsh. (360)

Clay Center, Kan., SKY LINE D. I. Exec: Ray Winch. (322)

Coffeyville, Kan. SKYLINE D. I., Hwy. 169. Exec: Tal Richardson, Box 136. (200)

Coffeyville, Kan., TAL'S D. I., Cline Rd. Exec: Tal Richardson, Box 136. (300)

Colby, Kan., COLBY D. I. Exec: Don Phillips. (350)

Columbus, Kan., CHEROKEE D. I. Exec: N .W. Huston. (450)

Columbus, Kan., COLUMBUS D. I., Hwy. 69. Exec: Arthur W. Pugh. (350)

Concordia, Kan., CONCORDIA D. I. Exec: Alex Schniderman, 211 W. 18th St., Kansas City, Mo. (320)

Council Grove, Kan., CHIEF D. I., 312 N. Main. Exec: Cle Bratton. (300)

Dodge City, Kan., BOOT HILL D. I., U. S. 50 S., Box 269. Exec: Mrs. Glen A. Cooper. (325)

Dodge City, Kan., SOUTH D. I., Box 269. Exec: Mrs. Glen A. Cooper. (500)

Eldorado, Kan., STAR VU D. I. Exec: Ben Adams. (300)

Ellinwood, Kan., ELLINWOOD D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (300)

Emporia, Kan., 50 SOUTH D. I. Exec: Wm. Flynn, Flynn Entr., Box 47, Great Bend. (565)

Eureka, Kan., EUREKA D. I. Exec: Aley and Strowig. (300)

Fort Scott, Kan., MO-KAN D. I., P. O. Box 547. Exec: Chet Borg. (300)

Fredonia, Kans., FREDONIA D. I. Exec: Mr. and Mrs. George Wadlington. (300)

Galena, Kans., CRESCENT D. I. Exec: Vernon D. Geabert. (150)

Garden ity, Kan., GARDEN D. I., P. O. Box 704. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (300)

Goodland, Kan., GOODLAND D. I., Hwy. 24 and 27, Box 621. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (196)

Great Bend, Kan., GREAT BEND D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (496)

Hays, Kan., HAYS D. I., P. O. Box 178. Exec: G. A. Cooper. (350)

Herington, Kans., ROCKET D. I. Exec: Calvin and Robert Strowig. (288)

Hiawatha, Kan., HIAWAY D. I. Exec: Mid-central Ths. (230)

Hill City, Kan., RIVERSIDE D. I. Exec: Lil Welty. (260)

Hoisington, Kan., CHEYENNE D. I. Exec: Com-monwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (468)

Hugoton, Kan., HUGOTON D. I. Exec: Merle Harris. (272)

Hutchison, Kan., AYR-VU D. I. Exec: Jay Wooten. (400)

Hutchison, Kan., IRIS D. I., R.F.D. #4. Exec: Robert Sproule. (448)

Independence, Kan., SUNSET D. I. Exec: Mid-central Ct. (306)

Iola, Kan., 54 D. I., P. O. Box 263. Exec: Jack E. Hastings. (300)

Johnson County, Kans., LEAWOOD D. I. Exec: Glen Dickinson, Mission. (1000)

Junction City, Kan., MIDWAY D. I. Exec: War-ren L. Weber. (500)

Kanopolis, Kan., LAKEVIEW D. I. Exec: Com-monwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (185)

Kansas City 3, Kan., BOULEVARD D. I., 1899 Merriam Blvd. Exec: Charles Potter, Rosedale Drive-In Th. Corp. (750)

Kansas City, Kan., KANSAS D. I., Stoney Point Rd. and Hwy. 40. Exec: Rube Finkelstein, 1701 N. 7th St., Kansas City, Mo. (1000)

Kansas City, Kan., LAKE PARK D. I. Exec: W. D. Fulton. (760)

Kansas City, Kan., LAKESIDE D. I. Exec: George Bennet Ent. (950)

Kansas City, Kan., SHAWNEE D. I. (Shawnee), Hwy. 69. Exec: Dickinson Ths., Mission. (1000)

Kingman, Kan., MEADE D. I., Hwy. 54. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (300)

La Crosse, Kans., LA CROSSE D. I. Exec: Ralph Larned. (285)

Larned, Kan., LARNED D. I. Exec: Don Bur-nett, State Th. (350)

Lawrence, Kan., LAWRENCE D. I., P. O. Box 199. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (365)

Lawrence, Kan., SUNSET D. I. Exec: M. B. Landau. (390)

Leavenworth, Kan., FORT D. I., R.F.D. #4. Exec: Beverly Miller. (300)

Leavenworth, Kan., SKYLARK D. I. Exec: Dur-wood Ths., Kansas City, Mo. (400)

Lenexa, Kans., NEW 50 D. I. Exec: George Baker. (740)

Liberal, Kan., GREAT WESTERN D. I., Box 1005. Exec: Ben Adams. (350)

Lyons, Kan., LYONS D. I., Box 341. Exec: Max E. Davis. (440)

Manhattan, Kans., EDGEWOOD D. I. Exec: Midcentral Ct. (550)

Manhattan, Kan., SKY VU D. I. Exec: Midcentral Ct. (368)

Marysville, Kan., HILL TOP D. I. Exec: Ray Winch. (350)

McPherson, Kan., STARVIEW D. I., Box 592. Exec: Ray Winch. (393)

Meade, Kan., STARLITE D. I. Exec: Laird and Bristol. (200)

Medicine Lodge, Kan., PAGEANT D. I. Exec: Roy Culley. (265)

Neodesha, Kan., 75 AIRPORT D. I. Exec: C. E. Klock. (300)

Ness City, Kan., STAR D. I. Exec: Bernard Hoss. (200)

Newton, Kans., STARLIGHT D. I. Exec: E. Krug and L. Hofen. (350)

Newton, Kan., WEST-VUE D. I. Exec: Ray Roberson. (300)

Norton, Kan., SUNSET D. I. Exec: Fred Munson. (225)

Osage City, Kan., HILLCREST D .I., 630 S. 6th St. Exec: Mrs. Joyce Hitchings. (320)

Osawatomie, Kan., MIDWAY D. I. Exec: Midcentral Ths. (330)

Osborne, Kan., PIONEER D. I. Exec: Richard VanSycoc. (200)

Ottawa, Kan., HILLCREST D. I., 1214 S. Hickory. Exec: Mr. and Mrs. William Bancroft. (300)

Parsons, Kan., PARSONS D. I., 1405 Morgan. Exec: L. E. Stein, Stein Ths., Inc. (500)

Phillipsburg, Kan., DRIVE IN. Exec: R. R. Winship. (300)

Pittsburg, Kan., PITTSBURG D. I. Exec: Glen W. Dickinson, Mission. (500)

Pittsburgh, Kan., 69 D. I., P. O. Box 205. Exec: Glen W. Dickinson, Mission. (550)

Plainville, Kan., SKI VUE D. I. Exec: Mrs. George Moore. (300)

Pratt, Kan., TRAIL D. I. Exec: Sol Frank. (400)

Russell, Kan., SKY VU D. I., Box 575. Exec: Dale Danielson. (350)

Sabetha, Kans., NEMAHA D. I. Exec: E. M. Block. (250)

Salina, Kan., 81 D. I., R.F.D. #4. Exec: Glen W. Dickinson, Mission. (600)

Salina, Kan., ROCKET D. I. Exec: Sol Frank. (500)

Scott City, Kan., SCOTT CITY D. I. Exec: Fred Munson. (225)

Smith Center, Kan., DRIVE IN. Exec: Dan Blair. (300)

Stockton, Kan., PARK D. I. Exec: Merle Swank. (288)

Syracuse, Kan., RANCHO 50 D. I. Exec: Frank Northrup and Marvin Ellis. (300)

Topeka, Kan., CHIEF D. I., Hwy. S-75, 107 W. 7th. Exec: Lawrence Breuninger, Chief Dr.-In Corp. (800)

Topeka, Kan., CLOVERLEAF D. I., 25th and California. Exec: John Basham, Jr., Community Ths., Inc. (700)

Topeka, Kan., COMMUNITY D. I. Exec: John Basham, Jr., Community Ths., Inc. (700 and 50 Walk-In Seats)

Topeka, Kan., CORRAL D. I., Topeka Ave. and 37th St. Exec: John Basham, Jr., Community Ths., Inc. (750)

Topeka, Kan., STARLITE D. I. Exec: John Basham, Jr., Community Ths., Inc. (400)

Ulysses, Kan., ULYSSES D. I. Exec: C. V. Crocker. (295)

Wakeeney, Kan., Y D. I. Exec: Glen Hlader. (325)

Wellington, Kan., CHISHOLM D. I. Exec: C. R. Gregg, Howard Humbert, and Dewey Utterback. (400)

Wellington, Kan., SUNSET D. I. Exec: Dewey Utterback, and C. R. Gregg. (300)

Wichita, Kan., AIRPORT D. I., 3100 S. Oliver. Exec: Merle Barnes. (600)

Wichita, Kan., 81 D. I., 6250 N. Broadway. Exec: Amusement Ent. and Consolidated Agencies. (500)

Wichita, Kan., 54 D. I., 6251 E. Kellogg. Exec: Amusement Ent. and Consolidated Agencies. (650)

Wichita, Kans., 42 SKY VUE D. I., 4308 Southwest Blvd., Box 1542 Exec: George Sproule. (500)

Wichita, Kan., MEADOWLARK D. I. Exec: Mrs. T. H. Slothower. (868 and 300 Seats)

Wichita, Kans., MEADOWLARK TWIN D. I. Exec: Mrs. T. H. Slothower. (365)

Wichita, Kan., PAWNEE D. I., 2400 S. Broadway. Exec: Al McClure. (450)

Wichita, Kans., RAINBOW D. I. Exec: Mrs. T. H. Slothower. (600)

Wichita, Kan., TERRACE D. I. Exec: Mrs. T. H. Slothower. (650)

Wichita, Kan., WEST PORT D. I. Exec: Al McClure. (370)

Winfield, Kan., WINFIELD D. I. Exec: Fred Munson. (325)

Yates Center, Kans, YATES CENTER D. I., P. O. Box 217. Exec: Darrel H. Davis. (210)

Missouri

(NOTE: See also Memphis and Saint Louis Territories)

Aurora, Mo., SUNSET D. I., P. O. Box 302. Exec: Ralph Hough, Jr. (200)

Bethany, Mo., FRONTIER D. I. Exec: Earl Kerr. (300)

Bolivar, Mo., LUCKY 13 D. I. Exec: W. O. Woody. (300)

Boonville, Mo., STARLITE D. I., Hwy. 5 at 40W. Exec: Tony Fenton. (300)

Branson, Mo., BRANSON D. I. Exec: Norman Edwards. (—)

Branson, Mo., SHEPHERD OF HILLS D. I. Exec: Glen Dickinson, Mission, Kan. (100)

Brookfield, Mo., LIN-VU D. I., P. O. Box 104. Exec: Elmer Bills, Bert Simmey, and Frank Weary. (300)

Buffalo, Mo., BUFFALO AUTO SCOPE D. I. Exec: Bert Crawley, and Elzy Jackson. (130)

Butler, Mo., SKY-VUE D. I. Exec: Chet Borg. (250)

Camdenton, Mo., CAMDENTON D. I., Box 103. Kersey C. Clark. (237)

Cameron, Mo., PATIO D. I., Hwy. 36. Exec: W. C. Silver and Red-X Oil Co. (400)

Carrollton, Mo., CAROL D. I., Hwy. 24. Exec: Charles Payson. (250)

Carthage, Mo., 66 D. I. Exec: Bill Bradfield. (400 and 18 Seats)

Carthage, Mo., SUNSET D. I. Exec: Clyde Leeson. (300)

Cassville, Mo., GREEN HILLS D. I. Exec: Glen Hall. (380)

Chillicothe, Mo., 65 D. I. Exec: Jones and Saccaro. (274)

Clinton, Mo., 52 D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (240)

Eldon, Mo., CORRAL D. I. Exec: Tom Edwards and Frank Plumlee. (300)

Eldorado Spring, Mo., ELDORADO D. I. Exec: Mrs. Walter Loran. (250)

Eldorado Springs, Mo., PINES D. I., P. O. Box 812. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (300)

Goshland, Mo., HILLCREST D. I. Exec: M. S. Heath. (500)

Gravois Mills, Mo., GRAVOIS D. I. Exec: Glen Jones. (200)

Harrisonville, Mo., CASS COUNTY D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (220)

Henrietta, Mo., HIGHWAY 13 D. I. Exec: Frank Weary, Jr. (300)

Higginsville Junction, Mo., STARLIGHT D. I. Exec: Paul D. Neal, 405 S. 24th St. (300)

Jefferson City, Mo., 50 HI WAY D. I. Exec: Beverly Miller. (375)

Jefferson City, Mo., SKYLARK D. I. Exec: Durwood Ct., Kansas City. (500)

Joplin ,Mo., CREST D. I., P. O. Box 215. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (500)

Joplin, Mo., TRI-STATES D. I., P. O. Box 215. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (500)

Kansas City, Mo., AMPHITHEATRE D. I., Rt. 50. Exec: Baker Entr. (1000)

Kansas City, Mo., CREST D. I. (Hickman Mills). Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (1000)

Kansas City, Mo., HEART D. I. Exec: Winoko Corp. (1000)

Kansas City, Mo., HIGHWAY 40 D. I., Hwy. 40. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (800)

Kansas City, Mo., RIVERSIDE D. I. (Parkville), Rt. 5, Box 17. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (800)

Kansas City, Mo., 63RD ST. D. I. Exec: Shniderman and Sutter. (700)

Kirksville, Mo., SILVER STAR D. I., 207 E. Pierce. Exec: Day Mangus. (496)

Lamar, Mo., BARCO D. I. Exec: Harley Fryer. (200)

Lees Summit, Mo., TERRACE D. I., Box 108. Exec: Earl Jameson, and Sam Abend. (250)

Liberty, Mo., CLACO D. I. Exec: Clay County Th. Co., and Consolidated Agencies. (750)

Macon, Mo., MACON D. I. Exec: H. P. Arnold. (300)

Mansfield, Mo., OWEN D. I. Exec: (—)

Marceline, Mo., STAR D. I. Exec: Star Th. Corp. (300)

Marshall, Mo., PARKSIDE D. I. Exec: Charles Thomas. (310)

Maryville, Mo., STARLITE DUDE RANCH D. I. Exec: C. E. Cook. (350)

Milan, Mo., HI-5 D. I. Exec: Shelby Armstrong. (182)

Moberly, Mo., HI WAY 63 D. I. Exec: Elmer Bills. (300)

Monett, Mo., MONETT D. I., P. O. Box 142. Exec: Georgia Kelly. (200)

Monett, Mo., OZARK D. I. Exec: Commonwealth Th Ct., 215 W. 18th St., Kansas City. (230)

Mound City, Mo., HOLT D. I. Exec: Sprague and Van Winkle. (200)

Mount Vernon, Mo., ROLLER'S AIRWAY D. I. Exec: Elson Roller. (150)

Neosho, Mo., EDGEWOOD D. I. Exec: Hugh Gardner. (450)

Nevada, Mo., TRAIL D. I. Exec: Komp Jarrett. (275)

Osage Beach, Mo., GRAND GLAIZE D. I. Exec: H. L. Frazee. (250)

St. Joseph, Mo., BELT D. I., Belt Hwy. Exec: Durwood Ct., Kansas City. (600)

St. Joseph, Mo., COWTOWN D. I. Exec: Beverly Miller. (350)

St. Joseph, Mo., SKYLARK D. I., Belt Hwy. and and Farson. Exec: Durwood Ct., Kansas City. (518)

Sedalia, Mo., 50 D. I., R.R. #3. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (377)

Seymour, Mo., OWEN D. I., Box 223. Exec: George Owen. (150)

Sparta, Mo., ALVIN D. I. (Bruner), Nr. Christian Co. Line, Hwy. 14. Exec: R. L. Honeyman, Seymour. (150)

Springfield, Mo., SPRINGFIELD D. I., P. O. Box 1305, S.S. Sta. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (600)

Springfield, Mo., SUNSET D. I., P. O. Box 1305, S. S. Sta. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (520)

Trenton, Mo., GRAND-VU D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City. (230)

Unionville, Mo., SKY-VUE D. I. Exec: Rex L. Cool. (248)

Urbana, Mo., URBANA MULTISCOPE D. I. Exec: Tom C. Smith. (42)

Warrensburg, Mo., STARLET D. I. Exec: Commonwealth Th. Ct., 215 W. 18th St., Kansas City. (400)

Webb City, Mo., WEBB CITY D. I. Exec: Howard Larsen. (400)

LOS ANGELES TERRITORY

Arizona

Ajo, Ariz., AJO D. I. Exec: Louis F. Long, and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Benson, Ariz., BENSON D. I. Exec: Louis F. Long, and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Bisbee, Ariz., FORT APACHE D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson. (400)

Casa Grande, Ariz., DESERT D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Chandler, Ariz., MUSTANG D. I., Box 356. Exec: Joe Woods. (350)

Clifton, Ariz., 3-WAY D. I. Exec: C. E. Davis, and Earle J. Johnson. (400)

Coolidge, Ariz., PRINCE D. I., P. O. Box 517. Exec: L. F Long, and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Douglas, Ariz., FORT COCHISE D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson and Diamos and Assoc. (500)

Eloy, Ariz., "Y" D. I. Exec: L. F. Long and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Flagstaff, Ariz., MOUNT ELDON D. I., P. O. Box 1039. Exec: Northern Arizona Ths., and Harry L. Nace Ct., Inc., 2730 N. Central Ave., Phoenix. (500)

Glendale, Ariz., RANCHO D. I. Exec: Harry L. Nace Ct., Inc., 2730 N. Central Ave., Phoenix. (450)

Globe, Ariz., APACHE D. I., P. O. Box 1042. Exec: O. K. Leonard. (300)

Holbrook, Ariz., 66 D. I. Exec: Harry L. Nace Ct., Inc., 2730 N. Central Ave., Phoenix. (400)

Mammoth, Ariz., MAMMOTH D. I. Exec: Louis F. Long, and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (300 and 100 Seats)

Mesa, Ariz., PIONEER D. I., 2165 W. Main. Exec: H. L. Nace Ct., 2730 N. Central Ave., Phoenix. (692)

Mesa, Ariz., SANDS D. I. Exec: Harry L. Nace Ct., Inc., 2730 N. Central Ave., Phoenix. (400)

Nogales, Ariz., EL RANCHO D. I. Exec: Tri-Delta Amuse. Co., P. O. Box 5447, Tucson. (400)

Phoenix, Ariz., ACRES D. I., 3720 W. Van Buren. Exec: H. L. Nace Ct., 2730 N. Central Ave. (1000)

Phoenix, Ariz., CINEMA PARK D. I., 800 E. Missouri Ave. Exec: Ted Karatz, and Earle J. Johnson. (800)

Phoenix, Ariz., INDIAN D. I., Indian School Rd. and 27th Ave. Exec: Arizona-Paramount Corp., Orpheum Th. Bldg. (600)

Phoenix, Ariz., NORTHERN D. I. Exec: Northern Drive-In Th., Inc., and R. W. Carmichael. (1200)

Phoenix, Ariz., PESO D. I. (North Screen). Exec: H. L. Nace Ct., 2730 N. Central Ave. (400)

Phoenix, Ariz., PHOENIX D. I., 3600 E. Van Buren. Exec: H. L. Nace Ct., 2730 N. Central Ave. (500)

Phoenix, Ariz., RODEO D. I. Exec: M.G.A. Corp., and Judy Poynter, 1914 S. Vermont, Los Angeles 7, Cal. (500)

Phoenix, Ariz., SILVER DOLLAR D. I. Exec: B. J. Leavitt, and Nace and Wickersham. (550)

Prescott, Ariz., SENATOR D. I., 804 Country Club Dr., Box 1223. Exec: Prescott Ths., Inc., and Harry L. Nace Ct., 2730 N. Central Ave., Phoenix. (350)

Safford, Ariz., SAFFORD D. I. Exec: Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (200)

Superior, Ariz., SUPERIOR D. I., P. O. Box 96. Exec: L. F. Long, and Jones Ents., 9100 Sunset Blvd., Los Angeles 46, Cal. (280)

Tucson, Ariz., APACHE D. I. Exec: Harry Agron, Benson Ths., Inc., and George Ingram. (1200)

Tucson, Ariz., BILTMORE D. I., 600 W. Kelso St. Exec: Airmont Motor Vu Ths., Inc., and Theatre Serv., 1583 W. Washington. (525)

Tucson, Ariz., CACTUS D. I., Rt. 8, Box 920. Exec: Wes Becker, Cactus Th. Op. Co., and R. W. Carmichael. (600)

Tucson, Ariz., FIESTA D. I. Exec: Wes Becker, and Prince Ths., Inc. by Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal. (465)

Tucson, Ariz., MIDWAY D. I., 4500 E. Speedway. Exec: F. Bernard, Midway Entr., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal. (850)

Tucson, Ariz., PRINCE D. I. Exec: Dallas Day, Prince Dr. In Ths., Inc. (800)

Tucson, Ariz., RODEO D. I., 201 E. Pennsylvania. Exec: Cactus Th. Op. Co., and R. W. Carmichael. (600)

Tucson, Ariz., 22ND ST. D. I., E. 22nd and Belvedere. Exec: Floyd Bernard, Midway Ent., Inc. (450)

Winslow, Ariz., TONTO D. I., P. O. Box 422. Exec: H. L. Nace Ct., 2730 N. Central Ave., Phoenix. (300)

Yuma, Ariz., MESA D. I., 8914 4th Ave. Exec: Ed Ashkins, Yuma Dr.-In Ths. Co. (633)

Yuma, Ariz., SILVER SPUR D. I. Exec: Ed Ashkins, Yuma Dr.-In Ths. Co. (800)

California

(NOTE: See also San Francisco Territory)

Anaheim, Cal., ANAHEIM D. I. Exec: Aladdin Ths., and Berman Bros. (1800)

Arlington, Cal., MAGNOLIA D. I., P. O. Box 2. Exec. Santa Fe Th. Corp., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (400)

Bakersfield, Cal., "99" D. I., 4444 Pierce Rd. Exec: Gannon and Gannon, and Star Th. Corp. and Exhibitors Serv., Inc., 1977 S. Vermont, Los Angeles. (900)

Bakersfield, Cal., SOUTH CHESTER D. I., S. Chester Ave. at Hwy. 99. Exec: Gannon and Gannon, and Exhibitors Service, Inc., 1977 S. Vermont, Los Angeles. (450)

Bakersfield, Cal., TERRACE D. I., 300 Terrace. Exec: Scott Ths., Inc., and Earl J. Johnson Ths., 1968 S. Vermont, Los Angeles. (640)

Beaumont, Cal., CHERRY PASS D. I. (Banning). Exec: Los Angeles Dr.-In Ths., and Robert Benton, Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (400)

Bell Gardens, Cal., GAGE D. I., 6805 E. Gage. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (999)

Bishop, Cal., NEW D. I. Exec: C. A. Ford. (—)

Blythe, Cal., RANCHO VERDE D. I. Exec: Robert Dunnegan. (500)

Bostonia, Cal., AERO D. I. Exec: D. L. Johnson, and Roy Dickson, Theatre Serv. Corp. (570)

Brawley, Cal., FAMILY MOTOR VU D. I. Exec: Family Motor Vu Dr.-In Ths., and Roy Dickson. (550)

Burbank, Cal., PICKWICK D. I., 1100 W. Alameda W. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (800)

Burbank, Cal., SAN VAL D. I., 2720 Wiona St. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (813)

Chula Vista, Cal., BIG SKY D. I. Exec: Big Sky Dr. In Th., Inc., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (2000)

Chula Vista, Cal., HARBOR D. I., National Ave., Hwy. 101, Box 847. Exec: Harbor Drive-In Corp., and Henry Slater. (685)

Clearwater, Cal., ROADIUM D. I., 14711 S. Paramount Blvd. Exec: Modern Amuse. Co., and Jim Finkler, 1914 S. Vermont Ave., Los Angeles 7. (850)

Compton, Cal., COMPTON D. I., 2111 E. Rosecrans Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (900)

Culver City, Cal., (Los Angeles), STUDIO D. I., 5250 Sepulveda Blvd., Box 1095. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (700)

Cypress, Cal., LINCOLN D. I. (Formerly Cinacar), 6612 Lincoln Blvd., Anaheim. Exec: John Feys, Lincoln Drive-In Corp., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (600)

El Monte, Cal., EL MONTE D. I., Lower Azusa Rd. and Ellis Lane, Box 449. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (874)

El Monte, Los Angeles Co., Cal., STARLITE D. I., 2559 Chico. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (850)

Escondido, Cal., ESCONDIDO D. I. Exec: Dan Johnston, and Exhibitor's Serv., 1977 S. Vermont, Los Angeles. (300)

Gardena, Cal., ROADIUM D. I., 2500 Redondo Beach Blvd. Exec: Pioneer Ths., Inc., and James Finkler, 1914 S. Vermont Ave., Los Angeles 7. (480)

Gardena, Cal., VERMONT D. I., 17737 S. Vermont, Box 466. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (875)

Goleta, Cal., AIRPORT D. I., Opp. Santa Barbara Airport. Exec: Sherrill Corwin, Airport Drive-In Corp. (750)

Hemet, Cal., HEMACINTO D. I. Exec: Sam Steifel. (390)

Highland, Cal., BASELINE D. I., 1785 Baseline. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (700)

Imperial, Cal., MOTOR VU D. I., Box 81. Exec: El Centro Drive-In Th., and Affiliated Ths., 1069 Market St., San Francisco. (500)

Indio, Cal., COACHELLO VALLEY D. I. Exec: F and E Th. Co., and Affiliated Ths., 1069 Market St., San Francisco. (400)

Inglewood, Cal., CENTINELA D. I. (Los Angeles). Exec: Aladdin Ths., and Berman Bros. (850)

Inglewood, Cal., CENTURY D. I. (Los Angeles), 3560 W. Century Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (980)

Lakewood Village, Cal., LAKEWOOD D. I. (Long Beach), 2100 E. Carson St. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (950)

La Mirada, Cal., LA MIRADA D. I. Exec: La Mirada Drive In Th. Corp., John Danz, and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (1000)

Lamont, Cal., SOUTH LAMONT D. I. Exec: Orlando Karr, and James Finkler, 1914 S. Vermont, Los Angeles 7. (480)

Lancaster, Cal., JET D. I. Exec: Western Amuse. Co. (400)

Lancaster, Cal., LANCASTER D. I. Exec: Earle J. Johnson. (700)

Lenwood, Cal., BAR-LEN D. I. Exec: Western Amuse. Co., Los Angeles 36. (425)

Loma Linda, Cal., TRI-CITY D. I., R. 1, Box 480, Hwy. 99. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (724)

Long Beach, Cal., CIRCLE D. I., 1633 Ximeno Ave. Exec: Cal-Pac Drive In Ths., 143 N. Robertson Blvd., Los Angeles 36. (932)

Long Beach, Cal., LONG BEACH D. I. Exec: Aladdin Ths., and Berman Bros. (1200)

Long Beach, Cal., LOS AITOS D. I. Exec: Pacific Drive In Ths. (2100)

Los Angeles, Cal., FLORAL D. I. (Belvedere). Exec: Aladdin Ths., and Berman Bros. (775)

Los Angeles 36, Cal., GILMORE D. I., 6201 W. 3rd and Fairfax Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd. (650)

Los Angeles 5, Cal., HARBOR D. I., 843 S. Harvard. Exec: Thrifty Th. Corp., and Judy Poynter, 1914 S. Vermont 7. (596)

Los Angeles 27, Cal., LOS FELIZ D. I., 3105 Riverside Dr. Exec: Los Feliz Drive-In Ths., Inc., and C. A. Ford. (500)

Los Angeles, Cal., ROSECRANS D. I. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36, and El Monte Dr. In, Inc. (1200)

Los Angeles, Cal., TWIN VU D. I., 15201 S. Figueroa. Exec: Clinton L. Glenny, and Judy Poynter, 1914 S. Vermont 7. (268)

Monrovia, Los Angeles Co., Cal., BIG SKY D. I., 1044 E. Huntington Dr. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (850)

Monrovia, Los Angeles Co., Cal., EDWARDS D. I. (Arcadia), 4469 E. Live Oak. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles. 36. (750)

North Hollywood, Cal., VICTORY D. I. (Van Nuys), 13037 Victory Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles, and Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (825)

Oceanside, Cal., MIDWAY D. I., Fall Brook Rd. Exec: Midway Ent., Inc., 4025 Lankershim Blvd., N. Hollywood. (508)

Ontario, Cal., VALLEY D. I., Valley Blvd. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (650)

Orange, Cal., ORANGE D. I., Placentia Blvd. and Rt. 101. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (788)

Oxnard, Cal., NEW D. I. Exec: Lou Berman. (—)

Pacoima (Van Nuys), Cal., LAUREL D. I. Exec: Pacific Drive-In Ths. (1700)

Palm Springs, Cal., SUN AIRE D. I. (Cathedral City). Exec: Ben Bronstein. (480)

Pasadena, Cal., HASTINGS D. I., Foothill and Rosemead. Exec: John Danz, Sterling Ths., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (1315)

Puente, Cal., VINELAND D. I. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (1600)

Reseda, Cal., RESEDA D. I., Reseda and Vanowen Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (740)

Rialto, Cal., FOOTHILL D. I., 655 E. Foothill Blvd. Exec: Mr. and Mrs. W. A. Tharp, and Earle J. Jhonson. (750)

Ridgecrest, Cal., CREST D. I. Exec: Everett Cummings. (500)

Riverside, Cal., RUBIDOUX D. I., Opal and Mission Blvds. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (738)

San Bernardino, Cal., MT. VERNON D. I., 632 S. Mt. Vernon Ave. Exec: B. E. Gongden, Mt. Vernon Motor-In Ths., and Judy Poynter, 1914 S. Vermont, Los Angeles 7. (580)

San Diego, Cal., CAMPUS D. I., 6147 El Cajon Blvd. Exec: Sam Russo. (868)

San Diego, Cal., MIDWAY D. I., 3901 Midway Dr. Exec: Midway Ent., Inc., 4025 Lankershim Blvd., N. Hollywood. (638)

San Diego, Cal., RANCHO D. I., Federal Blvd. and Euclid, Box 728. Exec: Sero Amuse. Co., 1638 W. Washington Blvd., Los Angeles. (1000)

San Fernando, Cal., FERNANDO D. I. Exec: Aladdin Ths., Inc., and Berman Bros. (1100)

San Gabriel, Cal., SAN GABRIEL D. I. Exec: James Edwards, and Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (1000)

San Luis Obispo, Cal., SUNSET D. I. Exec: Don McLaren, C. A. Pasquini, and James Finkler, 1914 S. Vermont, Los Angeles 7. (500)

San Pedro, Cal., SAN PEDRO D. I., 1575 N. Gaffey Ave. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (900)

Santa Ana, Cal., PAULO D. I., 14361 Paularino. Pacific Drive-In Ths. Corp. (750)

Santa Maria, Cal., PARK AIRE D. I., E. Whitney, 345 E. Donovan Rd. Exec: Charles Pasquinini. (500)

Santa Paula, Cal., SANTA PAULA D. I., 125 E. Harvard Blvd. Exec: M. L. Smith, Santa Paula Drive-In Ths., and J. Finkler, 1914 S. Vermont, Los Angeles 7. (450)

Southgate, Cal., SOUTHGATE D. I., Firestone Blvd. and Atlantic. Exec: Berman Bros. (830)

Sunland, Cal., SUNLAND D. I. Exec: Edwards Ths. Ct., 4907 N. Huntington Dr., Los Angeles. (550)

Taft, Cal., SUNSET D. I., P. O. Box 426. Exec: James Parks, Sunset Drive-In Ths. (628)

Torrance, Cal., TORRANCE D. I. Exec: Aladdin Ths., Inc., and Berman Bros. (1200)

Van Nuys, Cal., SEPULVEDA D. I. Exec: Aladdin Ths., and Berman Bros. (1487)

Van Nuys, Cal., VAN NUYS D. I., 15040 Roscoe Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (800)

Ventura, Cal., "101" D. I., Hwy. 101. Exec: Lou Berman. (777)

Victorville, Cal., JOSHUA D. I., P. O. Box 996. Exec: Western Amuse. Co. (398)

West Covina, Cal., EDGEWOOD D. I. Exec: Aladdin Ths., Inc., and Berman Bros. (1200)

West Los Angeles, Cal., OLYMPIC D. I., 12109 W. Olympic Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36. (745)

Westminister, Cal., HIWAY 39 D. I. (Santa Ana). Exec: Pacific Dr.-In Ths. (—)

Whittier, Cal., SUNDOWN D. I. Exec: Hugh H. Bruen, Bruen's Ths. Co. (1000)

Whittier, Cal., WHITTIER D. I. (Pico), 8462 E. Whittier Blvd. Exec: Cal-Pac Drive-In Ths., 143 N. Robertson Blvd., Los Angeles 36, and Western Amuse. Co. (1240)

Nevada

(NOTE: See also San Francisco and Salt Lake City Territories)

Las Vegas, Nev., MOTOR VU D. I., P. O. Box 1791. Exec: Howard Cahoon, and E. J. Johnson. (566)

Las Vegas, Nev., NEVADA D. I. Exec: Nevada Dr.-In Th., Inc., and B. J. Leavitt. (1250)

Las Vegas, Nev., SKYWAY D. I. Exec: Howard Cahoon, and E. J. Johnson. (800)

MEMPHIS TERRITORY

Alabama

(NOTE: See also Atlanta and New Orleans Territories)

Cherokee, Ala., MARY D. I. Exec: H. Ligon. (200)

Hamilton, Ala., FORD D. I. Exec: White Bedford. (250)

Arkansas

(NOTE: See also Kansas City, New Orleans and Oklahoma City Territories)

Arkadelphia, Ark., SKYVUE D. O., Hwy. 67. Exec: Rowley-United Inc. Ct., 363 S. 2nd St., Memphis, Tenn. (350)

Batesville, Ark., WHITE RIVER D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (224)

Benton, Ark., BIG FOUR D. I., Box 469. Exec: H. T. Crawford, and Mrs. Sybel C. Carter. (400)

Blytheville, Ark., SKYLINE D. I. Exec: Westley and Tom Bloomer. (380)

Blytheville, Ark., STARVUE D. I. Exec: Rodgers Ths., Inc., 230 8th St., Cairo, Ill. (450)

Booneville, Ark., BEL-AIR D. I. Exec: E. W. Savage. (195)

Camden, Ark., CAMDEN D. I. Exec: R. W. Gardy, and Emma Rater. (400)

Camden, Ark., MESA D. I., El Dorado Hwy. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (700)

Clarksville, Ark., ARK AIR D. I. Exec: United Ths., 303 M and M Bldg., Memphis, Tenn. (400)

Conway, Ark., 65 D. I. Exec: C. J. Collier. (306)

Corning, Ark., DRIVE IN. Exec: Gordon Hut-chins. (300)

Dermott, Ark., TWIN CITY D. I. Hwy. 65-165. Exec: O. G. Wren. (250)

El Dorado, Ark., GAY D. I., Hwy. 167 So. Exec: C. J. Futch (420)

El Dorado ,Ark., #7 D. I., P. O. Box 1504. Exec: L. B. Clark. (450)

El Dorado, Ark., SKYVUE D. I. Exec: L. B. Clark. (469)

Forrest City, Ark., SKYWAY D. I., Hwy. 70. Exec: L. F. Haven. (450)

Fort Smith, Ark., 71 D. I., Jenny Lind Rd., P. O. Box 3, Sta. A. Exec: William L. Spicer. (300)

Fort Smith, Ark., SKYVUE D. I. Exec: J. F. Brown, Memphis, Tenn. (497)

Fort Smith, Ark., 22 D. I., Hwy. 22, Box 217. Exec: Carl Burton. (600)

Gassville, Ark., STARLITE D. I., Box 77. Exec: Bob Brixey. (200)

Glenwood, Ark., GLENWOOD D. I., Hwy. 8. Exec: James Eggerman. (209)

Hamburg, Ark., SUNSET D. I. Exec: Charles Carpenter, Jr. (300)

Harrison, Ark., O-ZARK D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (260)

Hope, Ark., HOPE D. I., P. O. Box 417. Exec: D. D. Harrison, and United Ths., 303 M and M Bldg., Memphis, Tenn. (250)

Hot Springs, Ark., 70 D. I., Little Rock Hwy. Exec: H. B. Howard. (400)

Hot Springs, Ark., SUNSET D. I. Exec: Mrs. Jessie Howe. (375)

Hot Springs, Ark., WHEATLEY D. I., Gate Links Rd. Exec: H. E. Wheatley. (200)

Jacksonville, Ark., JACKSONVILLE D. I. Exec: B. M. Gray. (350)

Jonesboro, Ark., STARLITE D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (600)

Lepanto, Ark., LEPANTO D. I. Exec: W. C. Sumpter. (390)

Little Rock, Ark., ASHER D. I., Hwy. 70 and Asher Ave. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (650)

Little Rock, Ark., PINES D. I., P. O. Box 1329. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (500)

Little Rock, Ark., RAZORBACK D. I., Barber Ave. and 21st St. Exec: Arkansas Amuse. Co. (476)

Little Rock, Ark., RIVERSIDE D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (500)

Little Rock, Ark., ROSE D. I., P. O. Box 1106. Exec: G. W. Jones. (1000)

Magnolia, Ark., ROCKET D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (689)

Magnolia, Ark., SUNSET D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (400)

Malvern, Ark., MALVERN D. I. Exec: Rowley United, Inc., 363 S. 2nd St., Memphis, Tenn. (300)

Marked Tree, Ark., POINSETT D. I. Exec: J. E. Singleton. (400)

Mena, Ark., MENA D. I. Exec: Wren Ths. (150)

Monticello, Ark., MONTICELLO D. I. (Formerly Twin Oaks). Exec: Jack Rayburn. (350)

Morrilton, Ark., DRIVE IN. Exec: United Ths., Inv., 303 M and M Bldg., Memphis, Tenn. (400)

Mount Ida, Ark., SUNSET D. I., Hwy. 7. Exec: (Under Construction)

North Little Rock, Ark., DRIVE IN, Hwy. 70. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (500)

Newport, Ark., SKYLARK D. I. Exec: Mrs. Artemis Gray. (350)

North Little Rock, Ark., SCENIC D. I., 3500 Conway Pike, Box 429. Exec: Roy Cochran. (500)

Osceola, Ark., DELTA D. I., P. O. Box 206. Exec: Mr. and Mrs. James Martin. (400)

Paragould, Ark., SUNSET D. I., P. O. Box 477, Hwy. 25 West. Exec: Orris F. Collins. (600)

Paris, Ark., PARIS D. I. Exec: A. N. Zeiler, and Exhibitor's Service, 502 S. 2nd St., Memphis, Tenn. (300)

Piggott, Ark., MOTORVUE D. I. Exec: Winford Garner. (350)

Pine Bluff, Ark., DIXIE D. I. (Formerly 65). Exec: C. F. Bonner. (250)

Pine Bluff, Ark., PINE MOVIES D. I. Exec: Bonner and Stringer. (450)

Pine Bluff, Ark., ZEBRA D. I., West 14 and Hwy. 79. Exec: United Ths. Corp., and L. J. Fox, Mgr. (700)

Pocahontas, Ark., SKYLARK D. I., P. O. Box 289. Exec: Henley Smith. (450)

Prescott, Ark., PRESCOTT D. I. Exec: C. R. Gray and Eugene Hale. (300)

Russellville, Ark., 64 D. I. Exec: Gordon Hutchins. (345)

Searcy, Ark., DIXIE D. I. Exec: Commonwealth Ths. Ct., 215 W. 18th St., Kansas City, Mo. (250)

Sheridan, Ark., 270 D. I., Hwy. 270. Exec: C. P. Thompson. (200)

Stuttgart, Ark., STARVUE D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (400)

Warren, Ark., WARREN D. I. Exec: Sidney Wharton. (350)

West Helena, Ark., AIRVUE D. I. Exec: J. L. Anderson. (200)

West Memphis, Ark., SUNSET D. I., P. O. Box 121. Exec: Robert Kilgore. (400)

Wynne, Ark., HAVEN D. I. Exec: Imperial Th. Co. (300)

Kentucky

(NOTE: See also Atlanta, Cincinnati, Indianapolis and Saint Louis Territories)

Bardwell, Ky., CARLISLE D. I. Exec: Hamkich Ths., Inc., 3500 Park Ave., Memphis, Tenn. (200)

Benton, Ky., KENTUCKY LAKE D. I. Exec: J. W. Lyles. (250)

Benton, Ky., MARSHALL COUNTY D. I. Exec: Jack Wright. (250)

Calvert City, Ky., CALVERT D. I. Exec: Paul Harrington. (235)

Calvert City, Ky., SUNSET D. I. Exec: Russell Wilson. (175)

Fulton, Ky., FULTON D. I. Exec: M. E. Rice. (300)

Hardin, Ky., LAKEVIEW D. I. Exec: Neal Starks and Roy E. Clark. (200)

Henderson, Ky., AUDOBON D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (500)

Henderson, Ky., HI-Y D. I., 6 Barnett Dr. Exec: B. D. Bright. (300)

Henderson, Ky., STARLITE D. I. Exec: M. H. Miller. (400)

Huttawa, Ky., LYON CITY D. I. Exec: Exhibitor Serv., 502 S. 2nd St., Memphis, Tenn. (150)

Lynnville, Ky, TRI-CITY D. I. Exec: Neal Stark. (250)

Mayfield, Ky., CARDINAL D. I., Hwy. 45. Exec: Ned Greene, Legion Th. Co. (550)

Princeton, Ky., SKYWAY D. I., P. O. Box 111. Exec: B. G. Moore, and J. J. Rosenthal. (275)

Mississippi

(NOTE: See also New Orleans Territory)

Aberdeen, Miss., WESTWOOD D. I., P. O. Box 133. Exec: Charles Treas. (301)

Amory, Miss., 41 D. I. Exec: J. Carter. (250)

Booneville, Miss., 45 D. I., 308 Church St. Exec: W. H. Brown. (180)

Clarksdale, Miss., SKYLARK D. I., P. O. Box 211. Exec: Henley Smith, and Clark Shivley. (450)

Cleveland, Miss., CHIEF D. I. Exec: C. J. Collier, B. F. Jackson. (364)

Columbus, Miss., STATE D. I. Exec: R. B. Dossett. (300)

Corinth, Miss., SKYLARK D. I. Exec: Frank Simmons, Jr. (440)

Grenada, Miss., WHITEHAVEN D. I. Exec: John Carter. (200)

Houston, Miss., 8 DRIVE IN. Exec: Thomas E. Lloyd. (208)

Indianola, Miss., MOJAC MOTOR-IN D. I. Exec: B. F. Jackson, and Mrs. P. E. Morris. (320)

Kosciusko, Miss., STARLIGHT D. I., P. O. Box 350. Exec: Louis, George L. and Charles W. Lackey. (282)

Leland, Miss., ANNE D. I., Hwy. 82. Exec: J. C. Noble. (300)

Louisville, Miss., LOUISVILLE D. I. Exec: C. L. Clark. (211)

New Albany, Miss., UNION D. I. Exec: Flexer Ct. (300)

Oxford, Miss., REBEL D. I. Exec: J. R. Adams. (300)

Pontotoc, Miss., DRIVE IN. Exec: Joseph Chambers. (218)

Sardis, Miss., LAKE D. I. Exec: Alton Sims. (200)

Starkville, Miss., LAKESIDE D. I. Exec: E. H. Anderson, and H. B. Dorsett. (400)

Tupelo, Miss., 78 D. I. Exec: Malco Ths., Inc., 89 Beale Ave., Memphis, Tenn. (500)

West Point, Miss., WEST POINT D. I. Exec: Finley Moss. (280)

Winona, Miss., SUNSET D. I. Exec: V. Walker. (200)

Winona, Miss., WINONA D. I. Exec: C. O. Bishop. (400 Under Construction)

Missouri

(NOTE: See also Kansas City and Saint Louis Territories)

Mayti, Mo., MOONLIGHT D. I. (Formerly 61). Exec: B. D. Becker. (350)

Holcomb, Mo., ALL STAR D. I. Exec: Virgil Harris. (200)

Kennett, Mo., TOMMIES D. I. Exec: H. E. Boyd. (400)

Lilbourn, Mo., MIDWAY D. I. (New Madrid), 421 W. 9th St. Exec: Norvin Garner, and H. Poe. (300)

Tennessee

(NOTE: See also Atlanta and Charlotte Territories)

Camden, Tenn., MIDWAY D. I. Exec: Exhibitor's Serv., 502 S. 2nd St., Memphis. (200)

Centerville, Tenn., BEL-AIR D. I. Exec: Charles Fussell, and Exhibitor's Service, 502 S. 2nd St., Memphis. (250)

Covington, Tenn., RACO D. I., Hwy. 51 N. Exec: Ruffin Amuse. Co. (275)

Dickson, Tenn., BROADWAY D. I. Exec: J. C. Brown, Jr., and Exhibitor's Service, 502 S. 2nd St., Memphis. (240)

Dresden, Tenn., DRESDEN D. I. Exec: W. R. Nucci. (150)

Dyersburg, Tenn., FUNLAND D. I. Exec: Moreau E. Rice, Brownsville. (525)

Guys, Tenn., CORINTH D. I. Exec: M. L. Basse, 365 Prescott Rd. (350)

Hohenwald, Tenn., HIGHLANDS D. I. Exec: R. M. Lee, and Exhibitor's Service, 502 S. 2nd St., Memphis, (300)

Humboldt, Tenn., SKYWAY D. I. Exec: Rockwood Amuse. Co., 2208 Elliston Pl., Nashville. (300)

Huntington, Tenn., CARROLL D. I. Exec: Rockwood Amuse. Co., 2208 Elliston Pl., Nashville. (250)

Jackson, Tenn., FAMILY D. I. Exec: (500)

Jackson, Tenn., JAXON D. I., P. O. Box 1036. Exec: Douglas Pierce, Box 268, Pocahontas, Ark. (500)

Jackson, Tenn., MET-N-MOV D. I., Hwy. 45. Exec: Steve Stein. (300)

Lexington, Tenn., LACO D. I. Exec: Guy B. Amis. (245)

Martin, Tenn., SUNSET D. I. Exec: Ruffin Amuse. Co., Covington. (445)

Memphis, Tenn., BELLEVUE D. I. Exec: Malco Ths., Inc., 89 Beale Ave. (500)

Memphis 10, Tenn., FRAYSER D. I., 930 Oberle Rd. Exec: Malco Ths., Inc., 89 Beale Ave. (500)

Memphis, Tenn., LAMAR D. I., 3074 Lamar, Box 2481. Exec: Abner and Dave Labowitz. (500)

Memphis, Tenn., LINCOLN D. I. Exec: N. Z. Cook and F. L. Abernathy. (410)

Memphis, Tenn., SKYVUE D. I. Exec: Vernon Adams. (695)

Memphis, Tenn., SUMMER D. I. Exec: Malco Ths., Inc., 89 Beale Ave. (600)

Milan, Tenn., 45 D. I. Exec: Rockwood Amuse. Co., 2208 Elliston Pl., Nashville. (500)

Millington, Tenn., ELLIS D. I. Exec: Amelia Ellis. (500)

Paris, Tenn., SKY-VUE D. I. Exec: Robert T. Lax, J. R. Hayes, and W. H. Wilson. (300)

Paris, Tenn., SUNDOWN D. I. Exec: I. W. Boden. (150)

Ripley, Tenn., A AND B D. I. Exec: Aubrey Webb. (280)

Savannah, Tenn., SAVANNAH D. I. Exec: R. B. Gooch, Sr. (375)

Selmer, Tenn., SELMER D. I. Exec: R. B. Gooch, Sr. (375)

Trenton, Tenn., TRENTON D. I. Exec: Andy Jonas. (300)

Union City, Tenn., STARLIGHT D. I., 315 Lee St., Box 522. Exec: A. B. Garrett. (400)

Waverly, Tenn., LAKESIDE D. I. Exec: Nathan Flexer, and Exhibitor's Service, 502 S. 2nd St., Memphis. (400)

Wynnburg, Tenn., LAKE COUNTY D. I., P. O. Box 116. Exec: J. W. Morrison. (295)

MILWAUKEE TERRITORY

Michigan

(NOTE: See also Detroit Territory)

Breitung Township, Mich., TRI-CITY D. I. Exec: Thomas Th. Co. (400)

Chassell, Mich., HIAWATHA D. I. Exec: Peninsula Drive-In, Inc. (400)

Escanaba, Mich., HILL TOP D. I., Rt. 1, County Hwy. 412. Exec: Rex Coulter, and Delft Ths., Inc. (500)

Escanaba, Mich., KEN-MAR D. I. Exec: Austin J. Pouliot. (528)

Ironwood, Mich., IRONWOOD D. I., Rt. 2. Exec: Ironwood Amuse. Corp. (400)

Ishpeming, Mich., EVERGREEN D. I., P. O. Box 113. Exec: Evergreen Ent., Inc. (300)

Manistique, Mich., U. S. #2 D. I. Exec: Delft Ths., Inc., P. O. Box 8, Butler. (350)

Munising, Mich., SUPERIOR D. I. Exec: F. Chivers. (200)

Negaunee Township, Mich., MARQUETTE OUTDOOR D. I. Exec: Arnold J. Keskitalo. (400)

Rapid River, Mich., B AND D D. I. Exec: Mrs. P. Bucholtz. (250)

Sault Ste Marie, Mich., STARLIGHT D. I. Exec: Soo Amuse. Co. (400)

Wisconsin

(NOTE: See also Minneapolis Territory)

Antigo, Wisc., ANTIGO OUTDOOR D. I. Exec: Antigo Drive-In Th., Inc. (400)

Beaver Dam, Wisc., BEAVER DAM D. I. Exec: Marcus Th. Mgt. Co., 127 E. Silver Spring Dr., Milwaukee. (250)

Butler, Wisc., VICTORY D. I. Exec: Delft Ths., Inc., P. O. Box 423. (1000)

Christy, Wisc. COMMUNITY D. I. Exec: A. R. Clausen, Neillsville. (250)

Delavan, Wisc., LAKES OUTDOOR D. I. Exec: J. Sikes, R. Lawler, and Lakes Outdoor Th. Co. (600)

Elm Grove, Wisc., BLUEMOUND D. I., Bluemound Rd., Box 285. Exec: Midwest Drive-In Ths., Inc., and Philip Smith Ct., 82 Newberry St., Boston, Mass. (970)

Ephriam, Wisc., SKYWAY D. I. Exec: Elton Voeks, Lake Th., Baileys Harbor, and Theatre Serv. Co. (300)

Fond du Lac, Wisc., LAKE PARK OUTDOOR D. I., 51 W. Scott. Exec: Lake Park Outdoor, Inc., Milwaukee, and Gran Ent. Co., 5906 Port Washington Rd., Milwaukee. (600)

Franklin, Milwaukee Co., Wisc., 41 TWIN OUTDOOR D. I. Exec: Standard Ths. Mgt. Corp. 212 W. Wisconsin Ave., Milwaukee. (2000)

Grafton, Wisc., PORT OUTDOOR D. I., Hwy. 57. Exec: Erwin L. Nowak. (550)

Green Bay, Wisc., STARLITE D. I., Cass Near Beckers Corners, P. O. Box 161. Exec: Gran Ent. Co., 5906 Port Washington Rd., Milwaukee, (550)

Janesville, Wisc., HI-WAY 26 D. I., Hwy. 26. Exec: Gran Ent. Co., 5906 Port Washington Rd., Milwaukee. (500)

Janesville, Wisc., MID-CITY D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (859)

Jefferson, Wisc., HIWAY 18 D. I. Exec: National Amuse. Co. (400)

Kaukauna, Wisc., TOWER D. I., Box 302. Exec: Marcus Th. Mgt. Co., 127 E. Silver Spring Dr., Milwaukee. (800)

Kenosha, Wisc., KENO FAMILY D. I., Hwy. 42, Jct. "T", So. Sheridan Rd. Exec: Standard Th. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (750)

Kenosha, Wisc., MID-CITY D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (754)

Lake Delton, Wisc., DELTON OUTDOOR D. I., R. R. #1. Exec: Sauk Outdoor Th. Corp. (Unity Ct.). (375)

Madison, Wisc., BADGER OUTDOOR D. I., Route 1. Exec: Angelo Porchetta, Madison 20th Century Ths. Corp., 1324 W. Wisconsin Ave., Milwaukee. (650)

Madison, Wisc., BIG SKY D. I. Exec: Angelo Porchetta, Madison 20th Century Ths., Corp., 1324 W. Wisconsin Ave., Milwaukee. (925)

Manitowoc, Wisc., LAKE-VUE D. I. Exec: Thomas Th. Co. (450)

Marinette, Wisc., 64 OUTDOOR D. I. Exec: Martin Thomas, Braumart Th., Iron Mountain. (392)

Marshfield, Wisc., 10/13 D. I., P. O. Box 352. Exec: Adler Th. Co., and Theatres Service Co. (450)

Marshfield, Wisc., PARKWAY D. I., Rt. 5, Box 150. Exec: Walter Maxwell. (300)

Monroe, Wisc., SKY-VU D. I. Exec: Robert Goetz. (350)

Neenah, Wisc., VALLEY 41 D. I., P. O. Box 10. Exec: Marcus Th. Mgt. Corp., 127 E. Silver Spring Dr., Milwaukee. (485)

New Berlin, Wisc., HWY. 15 D. I., Hwy. 15. Exec: National Drive-In, Inc. (640)

New London, Wisc., 45 OUTDOOR D. I. Exec: Wadkins and Macklin. (300)

Oconomowoc, Wisc., HIGHWAY 16-S D. I., Hwy. 16. Exec: Unity Ths. Mgt. Co. (400)

Oshkosh, Wisc., OUTDOOR 44 D. I. Exec: Marcus Th. Mgt. Co., 127 E. Silver Spring Dr, Milwaukee. (420)

Platteville, Wisc., HIWAY 80 D. I. Exec: Platteville Th. Corp. (275)

Portage, Wisc., 51-16 D. I. Exec: Portea Co., Frank J. McWilliams. (316)

Racine, Wisc., WESTGATE OUTDOOR D. I., Box 222. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (600)

Reedsburg, Wisc., 33 D. I. Exec: Dick Kelly and Theatres Service Co. (320)

Rhinelander, Wisc, ROUMAN D. I. Exec: Pete Rouman, % Jos. Woodward, 4652 N. Lake Dr., Milwaukee. (500)

Richland Center, Wisc., HIGHWAY 14 D. I. Exec: Vic Manhardt. (538)

Ripon, Wisc., RIPON D. I. Exec: Marcus Th. Mgt. Co., 127 E. Silver Spring Dr., Milwaukee. (244)

Shawano, Wisc., SHAWANO D. I. Exec: W. L. Ainsworth, Independent Ths. Co., Inc. (520)

Sheboygan, Wisc., STAR DUSK D. I. Exec: Standard Ths. Mgt. Corp., 212 W. Wisconsin Ave., Milwaukee. (650)

Slinger, Wisc., SLINGER OUTDOOR D. I. Exec: Unity Ct. (300)

Sparta, Wisc., HI-WAY 16 D. I. Exec: Peter Stathis, Classic Th. (200)

Stevens Point, Wisc., HI-WAY 51 D. I., Hwy 51, 407 Division St. Exec: Badger Outdoor Th. Co., 411 Loeb Arcade, Minneapolis, Minn. (392)

Stevens Point, Wisc., McLARKY'S PARK D. I. (Whiting), R. R. 1, Box 65. Exec: C. McLarky. (100)

Sturgeon Bay, Wisc., STARLIGHT D. I. Exec: Arthur Brungraber Family and Joseph Woodward. (300)

Tomah, Wisc., TOMAH D. I. Exec: Ben Marcus. (244)

Waupaca, Wisc., HI-WAY 10 OUTDOOR D. I., Star Rt. Exec: Albert Behm, Jr. (210)

Wausau, Wisc., HI-WAY 29 D. I., Hwy. 29. Exec: Sig Goldberg, B and G Th. Co. (450)

Wautoma, Wisc., SHARA D. I. Exec: Bee, Inc. (300)

Wisconsin Rapids, Wisc., HIWAY 13 D. I. Exec: Gran Ent. Co., 5906 Port Washington Rd., Milwaukee. (500)

MINNEAPOLIS TERRITORY

Minnesota

Albert Lea, Minn., STARLITE D. I. Exec: Israel Friedman, Albert Lea Amuse. Co. (366)

Alexandria, Minn., SUNSET D. I. Exec: Mr. and Mrs. Wallace Bloom. (350)

Austin, Minn., HIWAY 218 D. I., 304 S. St. Paul St. Exec: Austin Outdoor Th. Corp. (434)

Bemidji, Minn., TIMBERLANE D. I. Exec: Wilfred Libel, Otto Burgraf. (250)

Benson, Minn., DRIVE IN. Exec: (400 Under Construction)

Brainerd, Minn., GULL D. I. Exec: Home Ths. Co. (489)

Cross Lake, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Dawson, Minn., HILL TOP D. I. Exec: William Svendsen. (420)

Detroit Lakes, Minn., SKYVIEW D. I. Exec: Elson and Nathanson, Lake Th. Co. (350)

Duluth, Minn., SKYLINE D. I., Rt. 1, Box 102. Exec: Mann and Rubenstein, Duluth Outdoor Th. Co. (548)

Emily, Minn., MARLOW'S MOBIL-IN D. I. (Portable). Exec: John Rohr, Pine River. (75)

Fairmont, Minn., FAMILY D. I. Exec: Watters and Nash. (350)

Faribault, Minn., FAMILY D. I. Exec: Watters and Nash. (500 Under Construction)

Fergus Falls, Minn., FERGUS FALLS D. I. Exec: Berger Amuse. Co., 317 Plymouth Bldg., Minneapolis. (370)

Fosston, Minn., MIDWAY D. I. Exec: John Prickzin. (100)

Garrison, Minn., GARRISON D. I. Exec: J. Bolig. (400)

Grand Rapids, Minn., PINE TREE D. I. Exec: S. E. Heller Co. (300)

Hackensack, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Hallock, Minn., 75 D. I. Exec: J. J. Carriere. (200)

Hector, Minn., DRIVE IN. Exec: N. R. Madsen. (Under Construction)

Hibbing, Minn., HIBBING D. I., Star Rt. #1. Exec: M. E. Davis. (500)

Hopkins, Minn., 7 HI D. I., Hwy. 7. Exec: Sterling P. Jones. (750)

International Falls, Minn., PAUL BUNYAN D. I. Exec: Eugene A. Tacke. (300)

Jenkins, Minn., MARLOW'S MOBIL-IN D. I. (Portable). Exec: John Rohr, Pine River. (75)

Little Falls, Minn., AIRPORT D. I. Exec: Lowell Smoots. (514)

Longville, Minn., MARLOW'S MOBIL-IN (Portable). Exec: John Rohr, Pine River. (75)

Luverne, Minn., VERNE D. I., Hwy. 75. Exec: K. C. Sargent. (300)

Mahnomen, Minn., STAR D. I. Exec: M. Francis. (100)

Mankato, Minn., KATO OUTDOOR, Rt. 4. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis. (350)

Marshall, Minn., STARLITE D. I. Exec: J. Heller. (428)

Minneapolis, Minn., BLOOMINGTON D. I., 78th St. betw. Portland and Cedar. Exec: Minnesota Entertainment Entr., Inc., Plymouth Bldg. (500)

Minneapolis, Minn., HILL TOP D. I., 4711 Central Ave. N.E. Exec: Sullivan Bros. (500)

Minneapolis, Minn., LUCKY TWIN D. I. Exec: Al Aved and Assoc. (1000)

Minneapolis, Minn., 100 TWIN D. I., 3901 Central Ave. N.W. Exec: Al Aved and Assoc. (600)

Minneapolis, Minn., STARLITE D. I. (Osseo). Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg. (650)

Montevido, Minn., STARLITE D. I. Exec: Welworth Amuse. (410)

Moorhead, Minn., MOON D. I. Exec: Starlite Ths., Inc., and Welworth Amuse. (400)

Morris, Minn., RAND D. I. Exec: M. Randgard. (350)

Navarre, Minn., NAVARRE AMPLI-THEATRE D. I. Exec: Leo Aved, Pres., Naverre Amuse. Co. (575 and 300 Walk-Ins)

New Ulm, Minn., STARLITE D. I. Exec: Welworth Amuse. (400)

Owatonna, Minn., HIWAY 65 D. I., Highway 65. Exec: Owatonna Amuse. Co., Inc. (500)

Pipestone, Minn., SUNSET D. I. Exec: Al Lee, Pipestone Amuse. Co., Richfield Th., Richfield. (400)

Redwood Falls, Minn., 71 D. I. Exec: Buckley, Peterson and Johnson. (482)

Rochester, Minn., ROCHESTER OUTDOOR D. I., Hwys. 14 and 52. Exec: Ralph Green, Sec'y., North States Ent., Inc. (440)

***Roosevelt, Minn.,** ROOSEVELT D. I. Exec: (16mm)

Saint Cloud, Minn., CLOUD OUTDOOR D. I. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis. (373)

Saint Paul, Minn., MINNEHAHA D. I. Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg., Minneapolis. (650)

Saint Paul, Minn., ROSE D. I., N. Snelling and County Rd. Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg., Minneapolis. (600)

Slayton, Minn., DUFFY'S D. I. Exec: R. Rauen-harst. (500)

South Saint Paul, Minn., CORRAL D. I. Exec: Minnesota Entertainment Ent., Inc., Plymouth Bldg., Minneapolis. (650)

Spicer, Minn., GREEN LAKE D. I. Exec: D. A. Olson. (225)

Spring Valley, Minn., MLINAR D. I. Exec: J. Milnar and Son. (406)

Tyler, Minn., LINCOLN D. I. Exec: Erling Utoft. (325)

Verndale, Minn., RAND D. I. Exec: J. Rand-gaard. (200)

Wedena, Minn., WADENA D. I. Exec: D. C. Quincer. (300)

Warren, Minn., SKYVU D. I. Exec: Allen Paul-son. (200)

Willmar, Minn., CHIEF D. I. Exec: Willmar Amuse. Co., Inc. (350)

Winona, Minn., SKY VU D. I., Minneapolis City Rd. Exec: Al Smith, Outdoor Ent., Inc. (500)

Worthington, Minn., GAY D. I. Exec: Gay Hower. (412)

North Dakota

Bismarck, N. D., CORRAL D. I. Exec: Otto Fink. (520)

Cavalier, N. D., NORTH STAR D. I. Exec: K. C. Brandhagen . (300)

Devils Lake, N. D., STARLITE D. I. Exec: Joe Floyd and Eddie Ruben. (325—Under Construction)

Dickinson, N. D., HILLCREST D. I. Exec: Frank Hallowell, Dickinson Th. Co. (500)

Fargo, N. D., STARLITE D. I., 1900 13th St. N. Exec: Starlite Ths. of N. D. (500)

***Goodrich, N. D.,** DRIVE IN. Exec: Ray Sperry. (16mm)

Grand Forks, N. D., STARLITE D. I. Exec: Starlite Drive-In Ths., Inc. (400)

Harvey, N. D., HIWAY 52 D. I. Exec: (300)

Hettinger, N. D., HETTINGER D. I. Exec: Paul Rothstein. (300)

Jamestown, N. D., SUNSET D. I. Exec: Mrs. L. J. Ludwig and Burr Cline, Lake Road Amuse. Co. (320)

Linton, N. D., DRIVE-IN. Exec: George Chap-man. (300 Under Construction)

Mandan, N. D., SUNDOWN D. I., Hwy. 10. Exec: F. E. and A. P. Wetzstein. (750)

Minot, N. D., HILLTOP D. I. Exec: Triangle Ths., and Earl L. Beck, Mgr. (Under Construction)

Minot, N. D., MINOT OUTDOOR D. I., P. O. Box 1724. Exec: Reno Wilk, Triangle Th. Mgt., 3900 S. Upton, Minneapolis, Minn. (374)

Mott, N. D., OPEN HOUSE D. I. Exec: O. K. Butts. (196)

Ray, N. D., MIDWAY D. I. Exec: Cecil Hamers. (200)

Regent, N. D., LAKESIDE D. ... Exec: C. K. Wuttke. (150)

Williston, N. D., LAKE PARK D. I. Exec: Snyder Th. Co. (500)

Williston, N. D., VALLEY D. I. Exec: Virgil Gould. (420)

South Dakota

(NOTE: See also Denver and Omaha Territories)

Aberdeen, S. D., STARLITE D. I. Exec: E. R. and Evelyn Ruben. (500)

Big Stone City, S. D., BIG STONE D. I. Exec: Urban Stolpman. (400)

Brookings, S. D., SIOUX D. I. Exec: D. M. Peterson, % State Th. (300)

Chamberlain, S. D., WESTERN D. I. Exec: E. C. Sorenson and E. D. Nash. (370)

Gettysburg, S. D., DRIVE IN. Exec: Worth Stocker. (300)

Huron, S. D., STARLITE D. I. Exec: Starlite Drive-In Ths. of Huron, Inc. (406)

Lemmon, S. D., RAINBOW D. I. Exec: E. Borud. (350)

Madison, S. D., MADISON D. I., 214 N. Van Eps Ave. Exec: D. Becker. (300)

Millbank S. D., CHATEAU D. I., Hwy. 77. Exec: Exec: Mike and Pete de Fea. (350)

Miller, S. D., MIDWAY D. I. (Formerly Rustler). Exec: E. Schweigerdt. (260)

Mitchell, S. D., LAKEVIEW D. I., P. O. Box 913. Exec: Wm. Clark, Pres., Lakeview Drive-In Th., Inc. (466)

Mobridge, S. D., LAKEVIEW D. I. Exec: Doug Kressley. (400)

Montrose, S. D., HILL TOP D. I. Exec: Leo Wheeler. (125)

Philip, S. D., D AND R D. I. Exec: Dale Ron-ning. (300)

Pierre, S. D., SIOUX D. I., Hwy. 38. Exec: D. H. Martin, Mgr., and Leo and Dan Peterson. (300)

Redfield, S. D., SIOUX D. I. Exec: Leo and Dan Peterson. (350)

Sioux Falls, S. D., EAST PARK D. I., Hwy. 38. Exec: Starlite Ths. of S. D. (423)

Sioux Falls, S. D., STARLITE D. I., 1925 North-west. Exec: Starlite Ths. of S. D. (650)

Watertown, S. D., EAST PARK D. I. Exec: Wel-worth Ths. Co., Minneapolis, Minn. (408)

Watertown, S. D., MELODY D. I. Exec: Al Fritz. (600)

Wisconsin

(NOTE: See also Milwaukee Territory)

Ashland, Wisc., TRIAD D. I. Exec: Frank J. Hahn, Jr. (500)

Eau Claire, Wisc., STARDUSK D. I., R. R. 3. Exec: Shelgene Th. Co. (450)

Hayward, Wisc., HAYWARD D. I. Exec: A. N. Donnellelen, Box 162, Winter. (300)

La Crosse, Wisc., NORTH STAR D. I. Exec: Philip Dyer, Peter Reinhard and Assoc. (550)

La Crosse, Wisc., STARLITE D. I., P. O. Box 342. Exec: S and M Ths., 127 E. Ths., E. Silver Spring Dr., Milwaukee. (586)

Menomonie, Wisc, MENOMONIE OUTDOOR D. I. Exec: Marcus Th. Mgt. Co. (425)

Rice Lake, Wisc., 53 AUTO VUE D. I. Exec: Lyle Carisch. (500)

Spooner, Wisc., PAL MOTE D. I. Exec: Grengs Ct. (450)

Superior, Wisc., STARDUSK D. I. Exec: Benjamin Berger, Berger Amuse. Co. (700)

NEW HAVEN TERRITORY

Connecticut

(NOTE: See also Boston Territory)

Bloomfield, Conn., BLUE HILLS D. I., 1819 Park St., Hartford. Exec: Peter A. Leroy, Amalgamated. (687)

Bolton Notch, Conn., MANCHESTER D. I., R.F.D. #2. Exec: Bernie Menschell. (550)

Branford, Conn., BRANFORD #1 D. I. Exec: Burt and Ted Jacocks, and R. Schwartz. (Under Construction)

Branford, Conn., BRANFORD #2 D. I. Exec: A. Perry, Amalgamated. (Under Construction)

Bridgeport, Conn., BRIDGEPORT #2 D. I. Exec: Sam Rosen, Lockwood and Gordon, Metropolitan Bldg., Boston, Mass. (Under Construction)

Bridgeport ,Conn., CANDLELITE D. I. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (Under Construction)

Burrville, Conn., TORRINGTON D. I., Box 866, Torrington. Exec: Sam Rosen, Lockwood and Gordon, Metropolitan Bldg., Boston, Mass. (576)

Canaan, Conn., CANAAN D. I. Exec: L. Solkoff, Liggett-Florin, 220 W. 42nd St., New York, N. Y. (500)

Clinton, Conn., CLINTON D. I. Exec: Phil Cahill, 210 Charter Rd., Wethersfield. (Under Construction)

Danbury, Conn., DANBURY D. I., P. O. Box 590. Exec: Sam Rosen, Lockwood and Gordon, Metropolitan Bldg., Boston, Mass. (624)

Derby, Conn., CENTER D. I., Division St. Exec: Burt Jacocks, and R. Schwartz. (952)

East Haven, Conn., POST D. I., Saltonstall Pkway. Exec: Arthur Howard, Affiliated Ct., 1103 Park Square Bldg., Boston, Mass. (607)

East Windsor, Conn., EAST WINDSOR D. I., Ellington Rd., Box 33, Wapping. Exec: Sam Rosen, Lockwood and Gordon, Metropolitan Bldg., Boston, Mass. (756)

Farmington, Conn., E. M. LOEW-FARMINGTON D. I., Rt. 6. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (671)

Groton, Conn., GROTON D. I., Pleasant Valley Rd. Exec: H. Picazzio, Jr., 76 Neptune Ave., and Amalgamated. (650)

Hartford, Conn., HARTFORD D. I. Exec: Phil Smith, 82 Newberry Bldg., Boston, Mass. (Under Construction)

Mansfield, Conn., MANSFIELD D. I., R.F.D. #1. Exec: M. Keppner, Liggett-Florin, 220 W. 42nd St., New York, N. Y. (950)

Middletown, Conn., MIDDLETOWN D. I. Exec: Sal Adorno, Jr., 58 Lawn Ave. (900)

Milford, Conn., E. M. LOEW-MILFORD D. I., Rt. 1, Cherry St., P. O. Box 485. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (490)

Monville, Conn., NEW LONDON - NORWICH D. I., R.F.D. #7, Norwich. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (735)

Newington, Conn., E. M. LOEW D. I., Route 5, Berlin Turnpike Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (834)

Newington, Conn., PIKE D. I. Route 5, P. O. Box 133. Exec: R. Gloth, Amalgamated. (770)

North Haven, Conn., NEW HAVEN D. I., Rt. 5, P. O. Box 375. Exec: C. M. Lane, B. Jacocks Ct. (596)

Norwalk, Conn., NORWALK D. I., Rt. 1, Post Rd. Exec: Sam Rosen, Lockwood and Gordon, Metropolitan Bldg., Boston, Mass. (680)

Plainfield, Conn., LORD'S INDOOR & OUTDOOR D. I. Exec: Edward Lord, 37 Chestnut, Norwich. (782 and 481 Seats)

Plainville, Conn., PLAINVILLE D. I., Rt. 72. Exec: Conn. Th. Ct, 101 Whitney Ave., New Haven. (950)

Pleasant Valley, Conn., PEOPLES D. I. (Winsted), Rt. 181. Exec: L. Centrella. (343)

Poquonnock Bridge, Conn., BRIDGE D. I., Rt. 1. Exec: Ed O'Neill, P. O. Box 58, and Amalgamated. (652)

Portland, Conn., PORTLAND D. I., Glastonbury Rd. Exec: H. Brandt, 1555 Broadway, New York, N. Y. (500)

Southington, Conn., SOUTHINGTON D. I. Exec: Conn. Th. Ct., 101 Whitney Ave., New Haven. (950)

South Windsor, Conn., EAST HORTFORD FAMILY D. I., Chapel Rd. and Rt. 5, P. O. Box 1445. Exec: Bernard E. Francis, 1105 New Britain Ave., Hartford, and Amalgamated. (656)

Stamford ,Conn., STARLITE D. I., Shippan Ave. Exec: William Sobel, Liggett-Florin, 220 W. 42nd St., New York, N. Y. (563)

Torrington, Conn., SKY-VIEW D. I. Exec: Sam Rosen, Lockwood and Gordon Ct., Metropolitan Bldg., Boston, Mass. (565)

Waterbury, Conn., PINE D. I., P. O. Box 3007. Exec: J. Dolgin, 390 Bloomfield Ave., West Hartford, and F. McWeeney, P. O. Box 3007, Waterbury. (1380)

Waterford, Conn., WATERFORD D. I., Boston Post Rd. Exec: S. Gloth, and Amalgamated. (750)

Watertown, Conn., WATERTOWN D. I. Exec: J. Sirica, and F. Quatrano. (1000)

West Haven, Conn., BOWL D. I., 62 Orange Ave. Exec: Seymour Levins. (666)

Wolcott, Conn., LAKE D. I., Meriden Rd. Exec: R. Schwartz, B. Jacocks Ct. (706)

NEW ORLEANS TERRITORY

Alabama

(NOTE: See also Atlanta and Memphis Territories)

Andalusia, Ala., FENDLEY D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Atmore, Ala., PALMS D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Brewton, Ala., EAGLE D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Citronelle, Ala., CITRONELLE D. I. Exec: Wallace E. Turner. (250)

Evergreen, Ala., MOONLIGHT D. I. Exec: Olin Evans. (122)

Florala, Ala., JIM & TIM D. I. Exec: Mitter Adams. (250)

Florala, Ala., STARLITE D. I. Exec: Olin Evans. (194)

Foley, Ala., HUB D. I. Exec: Fred McLendon, P. O. Box 289, Union Springs. (315)

Greenville, Ala., CAMELIA D. I. Exec: Martin Ths., P. O. Box 1083, Atlanta, Ga. (300)

Grove Hill, Ala., AREA D. I. Exec: Charles Waterall. (424)

McIntosh, Ala., 43 D. I. Exec: John Waterall. (200)

McKenzie, Ala., STARVUE D. I. Exec Fred McLendon, P. O. Box 289, Union Springs. (200)

Mobile, Ala., AUTO SHO D. I., Route 4. Exec: Giddens and Rester Ths., and W. E. Limroth, P. O. Box 1495. (900)

Mobile, Ala., BAMA D. I., Hwy. 90, Rt. 4, Box 219. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (500 and 425 Seats)

Mobile, Ala., DO D. I., 51 Dauphin St. Exec: E. I. Fessler. (900 and 200 Seats)

Monroeville, Ala., HUB D. I. (Fisco City). Exec: Fred McLendon, P. O. Box 289, Union Springs. (270)

Opp, Ala., DIXIELAND D. I. Exec: G. S. Owen. (325)

Opp, Ala., OPP D. I. Exec: G. S. Owen. (312)

Sanford, Ala., MIDWAY D. I. Exec: G. S. Owen. (250)

Arkansas

(NOTE: See also Kansas City, Memphis and Oklahoma City Territories)

Stamps, Ark., 82 D. I. Exec: Billy Bray. (300)

Texarkana, Ark., JOY D. I., Hwy. 59. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans, La. (600)

Texarkana, Ark., LOOP D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans, La. (700)

Florida

(NOTE: See also Atlanta and Jacksonville Territories)

Century, Fla., ESCAMBIA D. I., P. O. Box 314. Exec: Paul Wood. (175)

Crestview, Fla., DIXIE D. I., P. O. Box 36. Exec: Tom Barrow. (400)

Crestview, Fla., PARK D. I., P. O. Box 565. Exec: L. E. Craig, and Cecil Howard. (250)

Milton, Fla., SKYLINE D. I. Exec: Fred McLendon, P .O. Box 289, Union Springs, Ala. (200)

Niceville, Fla., BAY D. I. Exec: J. J. Tringas, Box 158, Ft. Walton. (186)

Ocean City, Fla., OCEAN CITY D. I. (Fort Walton), P. O. Box 565, Crestview. Exec: L. E. Craig, and Cecil Howard. (250)

Pensacola, Fla., HI-WAY 90 D. I., Hwy. 90. Exec: Pike Booking Co., P. O. Box 514, McComb, Miss. (500)

Pensacola, Fla., PALAFOX D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (400)

Pensacola, Fla., PALMS D. I. Exec: J. J. Scherer. (500)

Pensacola, Fla., RANCH D. I., P. O. Box 2128. Exec: Jimmy and Charlie Tringas, P. O. Box 2128. (500)

Pensacola, Fla., TWIN-AIR D. I., 3910 Navy Blvd. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (1000)

Shalimar, Fla., FLORIDA D. I. Exec: J. J. Tringas, Box 158, Ft. Walton. (400 and 200 Seats)

Warrington, Fla., WARRINGTON D. I. Exec: S. E. McDaniel. (500)

Louisiana

(NOTE: See also Dallas Territory)

Abbeville, La., LA FITTE D. I. Exec: F and R Ent., P. O. Box 86. (480)

Alexandria, La., FOX D. I., Huey Long Circle and MacArthur Dr. Exec: B. F. Johnson, 100 Navajo Trail. (480)

Alexandria, La., JOY D. I., Hwy. 71, P. O. Box 4054. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (500)

Alexandria, La., TWIN D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (1000)

Amite, La., MIXON'S D. I. Exec: Neal Mixon. (200)

Arabi, La., ST. BERNARD D. I., P. O. Box 55, St. Bernard Hwy. Exec: George E. Wiltse, 4216 Hanover St., Dallas, Tex. (650)

Arnaudville, La., LANE D. I. Exec: J. H. Naquin. (245)

Barton, La., BAYOU LAND D. I. Exec: Lewis W. Cox. (400 and 150 Seats)

Bastrop, La., ROSE D. I., P. O. Box 191. Exec: George H. Goodwin. (400)

Baton Rouge, La., AIRLINE D. I. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (400)

Baton Rouge, La., FLORIDA D. I., Box 2267. Exec: Pike Booking Co., P. O. Box 514 McComb, Miss. (550)

Baton Rouge, La., REBEL D. I., 5200 Government Place. Exec: Pike Booking Co., P. O. Box 514, McComb, Miss. (550)

Baton Rouge, La., TIGER D. I., 6117 Airline Hwy. Exec: T. G. Solomon, P. O. Box 514, McComb, Miss. (600)

Berwick, La., ST. MARY D. I., Hwy. 90. Exec: William Lighter, Jr., Beach Hurst, Pass Christian, Miss. (200)

Bogalusa, La., JACK'S D. I., Rt. #3, Box 108. Exec: Jack M. Mickler, Box 239, Rt. 3. (330)

Bossier City, La., BARKSDALE D. I., P. O. Box 5617. Exec: Lillian Lutzer, 4316 Manning Lane, Dallas, Tex. (650)

Bossier City, La., DON D. I. Exec: McElroy Ths., P. O. Box 1780, Shreveport. (564)

Bunkie, La., FOX D. I. Exec: B. F. Johnson, 100 Navajo Trail, Alexandria. (450)

Columbia, La., OWL D. I. Exec: C. C. Duke. (275)

Coushatta, La., AMERICAN LEGION D. I., P. O. Box 536. Exec: Len Stephens. (100)

Covington, La., PARK D. I. Exec: Philip F. and Warren J. Salles. (400)

Crowley, La., TRAIL D. I. Exec: Theatre Serv-ice, 629 Common St, New Orleans. (325)

Cutoff, La., JET D. I. Exec: Richard Guidry and "Lefty" Cheramie. (250)

Denham Springs, La., DENHAM SPRINGS D. I. Exec: H. H. Forbes, Jr. (200)

DeQuincy, La., GAY-LEE D. I. Exec: J. S. Wingate. (350)

Deridder, La., EL RANCHO D. I., P. O. Box 371. Exec: Percy Duplissey, Box 371, and M. Guidry. (350)

Eunice, La., CLAUDE D. I., Eunice-Basile Hwy. Exec: J. C. Keller, and Theatre Service Co., 629 Common St., New Orleans. (244)

Gonzales, La., GONZALES D. I., Route 2. Exec: J. P. Guitreaux, and Russell Callen, 223 S. Liberty St., New Orleans. (200)

Gretna, La. GRETNA GREEN D. I., 21st St. Exec: B. J. Keyhan. (169)

Hammond, La., MITCHELL D. I. Exec: J. T. Mitchell. (300)

Homer, La., PINES D. I. Exec: R. A. Martin. (300)

Houma, La., DRIVE In. Exec: Page Baker, Ths. Service Co., 629 Common St., New Orleans. (320)

Jena, La., POP'S D. I. Exec: Mrs. H. M. Wise. (350)

Jennings, La., PELICAN D. I., Hwy. 90 East. Exec: Biney Marcentel, and J. G. Broggi, 218 S. Liberty St., New Orleans. (250)

Jonesboro, La., J-H D. I. Exec: I. Funderbuck. (485)

Kenner, La., KENNER D. I. Exec: Kenner Cinema, Inc. (300)

Lafayette, La., HUB D. I., Scott Rd., Rt. 2, Box 190. Exec: H-T Ths., Inc. (400)

Lafayette, La., TWIN D. I. Exec: H-T Ths., Inc. (1200)

Lake Charles, La., MIDWAY D. I. Exec: M. G. White. (550)

Lake Charles, La., NEW MOON TWIN D. I., 809 Ryan. Exec: Maurice Kleinman. (1000)

Lake Charles, La., ROUNDUP D. I., P. O. Box 562. Exec: Southern Amuse. Co. (500 and 125 Seats)

Lake Charles, La., SURF D. I. Exec: Southern Amuse. Co. (500)

Lake Providence, La., LAKE D. I. Exec: D. B. Fiske, Fiske Th., Oak Grove. (275)

Laplace, La., LA PLACE D. I. Exec: Bill Castay and Morris Terry. (250)

Leesville, La., PINES D. I., Hwy. 171. Exec: John Luster. (400)

Mansfield, La. DeSOTO D. I., Box 728. Exec: Claude Younger. (300)

Mansura, La., JOY D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (300)

Marrero, La., MARRERO D. I., P. O. Box 143. Exec: William Shiell. (420)

Metairie, La., CRESCENT D. I. (New Orleans), 1761 Airline Hwy. Exec: M. A. Lightman, Malco Ths., P. O. Drawer 2853, Memphis, Tenn. (700)

Metairie, La., DO D. I. (New Orleans), P. O. Box 9212. Exec: Ed Fessler, M. Ripps, Nile, Inc. (1200)

Minden, La., JOY D. I. Exec: W. H. Cobb, and Exhibitor's Poster Exch., 221 S. Liberty St., New Orleans. (500)

Monroe, La., COLUMBIA ROAD D. I., 509 Glemar St. Exec: H. G. Prophit, Jr. (240)

Monroe, La., JOY D. I., 7700 DeSiard Rd. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (500)

Natchitoches, La., CHIEF D. I., P. O. Box 77. Exec: W. R. Younger, Box 77, Hiway 20 So., and Page Baker, Theatre Serv. (480)

New Iberia, La., ECHO D. I., St. Martinville Rd. Exec: Jack O'Quin, Rio Th., Kaplan. (450)

New Orleans, La., ALGIERS D. I., 3424 Gen. Meyers Rd. Exec: Sam Wright, Jr., and Jack Lais, Jr. (600)

New Orleans, La., SKYVU D. I., Rt. 6, Box 269. Exec: Mortimer and Shiell, Gentilly Blvd. and Downman Rd. (800)

Oakdale, La., MELODY D. I., Box 342. Exec: Percy Duplissey. (500)

Opelousas, La., MIDWAY D. I. Exec: Joy Houck, Joy Ths., 1315 Gravier St., New Orleans. (325)

Opelousas, La., YAM D. I., P. O. Box 446. Exec: E. R. Sellers, 330 E. Franklin, and Milton Guidry. (650)

Pineville, La., PINES D. I. Exec: R. S. Stallings. (650 and 130 Seats)

Plaquemine, La., BRAD D. I. Exec: W. H. Cobb, 221 S. Liberty St., New Orleans. (350)

Ponchatoula, La., CAVE TANGI D. I., Hwy. 51. Exec: E. H. Pittman. (300)

Ruston, La., RUSTON D. I., Box 457. Exec: W. M. Butterfield. (414)

Shreveport, La., JOY D. I., Box 163, Greenwood Rd. and Hwy. 80. Exec: Booking Service Co., 1315 Gravier St., New Orleans. (850)

Shreveport, La., KING'S D. I., E. King's Hwy. Exec: Lillian Lutzer. (600)

Shreveport, La., LEO D. I. Exec: Booking Serv. Co., 1315 Gravier St., New Orleans. (500)

Shreveport, La., SUNSET D. I., P. O. Box 6367. Exec: G. H. Mercer. (650 and 125 Seats)

Shrewsbury, La., AIRLINE D. I., 4100 Airline Hwy. Exec: B. A. Woolner, 223 S. Liberty St., New Orleans. (800)

Shrewsbury, La., DRIVE-IN MOVIES D. I., 1603 Jefferson Hwy. Exec: B. A. Woolner, 223 S. Liberty St., New Orleans. (566)

Sterlington, La., KIM D. I. Exec: John Dole. (300)

Sulphur, La., TOR D. I. Exec: Darrell George. (300)

Tallulah, La., STAR D. I. Exec: Prophet and Kinkle. (300)

Thibodaux, La., COLONIAL D. I., Star Rt., 1. Exec: F. G. Prat, Jr., Vacherie Th., Vacherie. (400)

Vidalia, La., PAT D. I. Hwy. 84. Exec: John Elzey. (300)

Vidalia, La., RIO D. I. Exec: Baker Newton. (490 and 200 Seats)

Ville Platte, La., LARK D. I. Exec: H. B. Guillory. (350)

West Monroe, La., STAR D. I. Exec: H. G. Prophit, Jr., 509 Glenmar St., Monroe. (450)

Winnfield, La., PARKWAY D. I. Exec: Page Baker, Theatre Serv., and Albert Long. (300)

Winnsboro, La., LION D. I. Exec: Page Barker, Ths. Serv. Co., 629 Common St., New Orleans. (325)

Mississippi

(NOTE: See also Memphis Territory)

Bay St. Louis, Miss., HIWAY D. I. Exec: Mrs. Matilda Rhodes. (550)

Biloxi, Miss., BEACH D. I., W. Beach. Exec: E. V. Landaiche. (650)

Biloxi, Miss., GULF COAST DO D. I., Pass Road. Exec: E. I. Fessler, Do Drive-In Ths., 51 Dauphin St., Mobile, Ala. (600 and 100 Seats)

Brookhaven, Miss., 51 D. I., P. O. Box 318. Exec: A. R. Carruth, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (300)

Carthage, Miss., 35 D. I. Exec: George Chadwick. (250)

Columbia, Miss., DIXIE D. I. Exec: F. W. Corbitt. (282)

Forest, Miss., RITZ D. I. Exec: Max Connett, Newton. (375)

Greenville, Miss., JOY D. I. Exec: Wm. Prewitt and Mr. and Mrs. George Davis. (410)

Greenwood, Miss., AIRPORT D. I., P. O. Box 23. Exec: Russell Callen, 223 S. Liberty St., New Orleans, La. (425)

Hattiesburg, Miss., BEVERLY D. I., 303½ 10th Ave., P. O. Box 534. Exec: H. Hargroder. (800)

Hattiesburg, Miss., BROADWAY D. I., P. O. Box 428, Purvis. Exec: F. K. Phillips. (400)

Jackson, Miss., 51 D. I. P. O. Box 4457, Fondren Sta. Exec: T. G. Solomon, P. O. Box 514, McComb. (486)

Jackson, Miss., HIWAY 80 D. I., Hwy. 80, W., P. O. Box 3174. Exec: T. G. Solomon, Pike Booking Co., P. O. 514, McComb. (400)

Jackson, Miss., SKYVUE D. I., 140 Heatherwood Dr., Box 6085. Exec: T. G. Solomon, Pike Booking Co., P. O. Box 514, McComb. (400)

Jackson, Miss., VARIA D. I. Exec: T. G. Solomon, Pike Booking Co., P. O. Box 514, McComb. (500)

Laurel, Miss., DRIVE IN, Hwy. 11. Exec: C. Edward Jenner. (400)

Laurel, Miss., STARLITE D. I., 115 14th St., Box 31. Exec: C. H. Crossley, % Ritz Th. (450)

Leaksville, Miss., U D. I. Exec: M. W. Hicks. (160)

Lorman, Miss., AUTO-VUE D. I. Exec: Mrs. Sam Ewing. (250)

Lucedale, Miss., RITZ D. I. Exec: M. Hicks. (300)

Macon, Miss., 45 D. I. Exec: R. E. Hook. (200)

Magee, Miss., 49 D. I. (Sanatorium). Exec: Mrs. H. A. Everett. (250)

McComb, Miss., REN D. I., Hwy. 24, P. O. Box 327. Exec: Mrs. E. A. Robinson . (350)

Meridian, Miss., MERIDIAN D. I., Star Route 19. Exec: A. L. Royal, Ritz Th. (300)

Meridian, Miss., ROYAL D. I. Exec: A. L. Royal, Ritz Th. (400)

Natchez, Miss., REBEL D. I. Exec: Charles P. Morel, % Star Th. (300)

Natchez, Miss., STARLITE D. I. Exec: Charles Morel, % Star Th. (300)

Newton, Miss., H AND H D. I., Highway 80, East. Exec: Max Connett. (305)

Pascagoula, Miss., LAKE D. I., Box 28. Exec: W. M. Butterfield. (475 and 300 Seats)

Petal, Miss., EAST FOREST D. I. Exec: E. W. Adams. (300)

Picayune, Miss., PINE HILL D. I., P. O. Box 385. Exec: Lee M. Hamilton (250)

Prentiss, Miss., RITZ D. I. Exec: T. V. Carra-way, Plaza Th. (210)

Richton, Miss., C-W-C D. I. Exec: Charles Waterall, Jr. (150)

Taylorsville, Miss., LAKEVIEW D. I. Exec: A. W. Vowell. (190)

Vicksburg, Miss., RIVOLI D. I. Exec: T. G. Solomon, P. O. Box 514, McComb. (350)

Vicksburg, Miss., VICKSBURG D. I. Exec: W. A. Porter, Porter Printing Co., 1910 South St. (230)

Waynesboro, Miss., WAYNESBORO D. I., P. O. Box 352. Exec: A. L. Royal, Ritz Th., Meridian. (300)

West Long Beach, Miss., MOONLITE D. I. Exec: Lee Woodfield. (400)

Wiggins, Miss., GLO D. I. Exec: W. F. Straub. (198)

Woodville, Miss., FERN D. I. Exec: Al Randall. (300)

Yazoo City, Miss., IDLE HOUR D. I., R. R. #2, Box 154 E. Exec: O. C. Shannon, and J. G. Broggi, 218 S. Liberty St., New Orleans, La. (200)

NEW YORK TERRITORY

New Jersey

(NOTE: See also Philadelphia Territory)

Brielle, N. J., MOTOR VUE D. I. (Manasquan), 171 Main St. Exec: Independent Th. Serv., 352 W. 44th St., New York, N. Y. (700)

Eatontown, N. J., EATONTOWN D. I., Route 35. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst. (675)

Farmingdale, N. J., MONMOUTH COUNTY AIR-PORT FLY-IN D. I., P. O. Box 126. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (500 and 10 Planes)

Farmingdale, N. J., SHORE D. I., P. O. Box 114, R.D. #2. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (700)

Island Heights, N. J., BAY D. I. Exec: Ed Brown, Bay Dr. In Corp., and Liggett and Florin Ct., 220 W. 42nd, New York, N. Y. (650)

Lawrenceville, N. J., LAWRENCE D. I. (Trenton), Brunswick Pike, R.F.D. #2. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst. (645)

Ledgewood, N. J., GARDEN AUDITORIUM. D. I. Exec: W. P. Smith, and Wilber Snaper, 234 W. 44th St., New York, N. Y. (650)

Livingston, N. J., LIVINGSTON D. I, Route 10. Exec: Philip Smith Ct., 82 Newberry St., Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (1000)

Morris Plains, N. J., MORRIS PLAINS D. I., Rt. 10. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pla., Newark. (640)

North Brunswick, N. J., BRUNSWICK D. I., Rt. 14. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (600)

Paramus, N. J., PARAMUS D. I., Route 4. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (900)

Paterson, N. J., TOTOWA D. I., Rt. 6, Box 136, R.D. #2. Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (900)

Ringoes, N. J., HUNTERDON D. I. Exec: Brandt Th. Ct., 1555 Broadway, New York, N. Y. (340)

Rochelle Park, N. J., ROUTE 6 D. I. (Saddle River), Box 65. Exec: Phil Smith Ct., 83 Newberry St., Boston, Mass., and Liggett and Florin Ct., 220 W. 42nd St., New York, N. Y. (1100)

Rutherford, N. J., S-3 D. I., P. O. Box 318. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (1300)

Somerville, N. J., SOMERVILLE D. I., R.D. 3, U.S. Rt. 22. Exec: Associated Prudential Ths., and Rapf and Ruden. (1000)

Toms River, N. J., TOMS RIVER D. I. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst. (350)

Union, N. J., UNION D. I., Rt. 29 Exec: Frank Damis, Eastern Mgt. Outdoor Ths., 60 Park Pl., Newark. (625)

Woodbridge, N. J., WOODBRIDGE D. I., P. O. Box 315. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst. (750)

New York

(NOTE: See also Albany and Buffalo Territories)

Bay Shore, L. I., N. Y., BAY SHORE SUNRISE Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (1500)

Beth Page, L. I., N. Y., HEMPSTEAD TURNPIKE D. I. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St, New York. (616)

Brentwood, L. I., N. Y., BAYSHORE D. I. Exec: Associated Prudential Ths., Inc., 233 W. 49th St., New York. (730)

Bronx 61 N. Y., WHITESTONE BRIDGE D. I., 2505 Bruckner Blvd. Exec: Michael Redstone, Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York. (1150)

Commack, L. I., N. Y., COMMACK D. I. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (670)

Coram, N. Y., CORAM D. I., Rt. 25 and 112. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (580)

Croton-On-Hudson, N. Y., STARLIGHT D. I., Rt. 9, Albany Post Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Starlight Operating Corp. (750)

Elmsford, N. Y., ELMSFORD D. I., P. O. Box 737. Exec: Arthur Steel. (850)

Eltingville, Staten Island, N. Y., STATEN ISLAND D. I. Exec: Fabian Ct., 1501 Broadway, New York 36. (600)

Fishkill, N. Y., FISHKILL D. I. Exec: Brandt Ths., 1555 Broadway, New York. (500)

Greenport, L. I., N. Y., SKYWAY D. I., Rt. 25, 403 Main St. Exec: Associated Prudential Ths., Inc., 233 W. 49th St., New York. (400)

Hyde Park, N. Y., AUTO-VISION D. I. Exec: P. Eisenburg, S. F. Cohen, and Ligget and Florin Ct., 220 W. 42nd St., New York. (480)

Kingston, N. Y., 9W D. I., Route 9W. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst, N. J. (650)

Kingston, N. Y., SUNSET D. I., R. D. #4, Box 1013. Exec: Harry Lamont, 100 State St., Albany, and Ligget and Florin Ct., 220 W. 42nd St., New York. (450)

Massapequa, L. I., N. Y., MASSAPEQUA D. I. (Amityville), P. O. Box 386. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (654)

Middletown, N. Y., MIDDLETOWN D. I., Rt. 17, R.D. #4. Exec: Harry Alexander, and Ligget and Florin Ct., 220 W. 42nd St., New York. (400)

Newburgh, N. Y., BROOKSIDE-ON-LAKE D. I. Exec: Al Suchman, Brookside Dr. In Th. Corp. (700)

Newburgh, N. Y., MIDDLEHOPE D. I., Balmville, Rt. 9W. Exec: T. Tulve, Hudson Valley Drive-In Ent., Inc., and Ligget and Florin Ct., 220 W. 42nd St., New York. (400)

Peekskill, N. Y., HOLLOWBROOK D. I., Oregon Rd. and Red Mill. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Peekskill Dr. In Th. Corp. (700)

Poughkeepsie, N. Y., OVERLOOK D. I., R. D. #3. Exec: Harry Lamont, 100 State St., Albany, and Ligget and Florin Ct., 220 W. 42nd St., New York. (500)

Riverhead, L. I., N. Y., FLANDERS D. I. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (1000)

Shirley, N. Y., SHIRLEY D. I. Exec: J. M. Seider, Associated Prudential Ths., Inc., 233 W. 49th St., New York. (800)

Valley Stream, L. I., N. Y., SUNRISE D. I. Sunrise Highway. Exec: Michael Redstone, Boston, Mass., and Ligget and Florin Ct., 220 W. 42nd St., New York. (750)

Warwick, N. Y., WARWICK D. I. Exec: Charles Finger, George Miller, and Ligget and Florin Ct., 220 W. 42nd St., New York. (300)

Westbury, L. I., N. Y., WESTBURY D. I., Jericho Turnpike. Exec: Skouras Ths., Corp., 233 W. 49th St., New York. (1900)

OKLAHOMA CITY TERRITORY

Arkansas

(NOTE: See also Kansas City, Memphis and New Orleans Territories)

DeQueen, Ark., DeQUEEN AUTO D. I. Exec: K. Lee Williams, Servier Th. Bldg. (190)

Fordyce, Ark., FORDYCE AUTO D. I. Exec: K. Lee Williams, Servier Th. Bldg., DeQueen. (225)

Gurdon, Ark., GURDON AUTO D. I. Exec: K. Lee Williams, Sevier Th. Bldg., DeQueen. (225)

Nashville, Ark., NASHVILLE AUTO D. I. Exec: K. Lee Williams, Servier Th. Bldg., DeQueen. (225)

Paris, Ark., MOVIE AUTO D. I. Exec: K. Lee Williams, Sevier Th. Bldg., DeQueen. (225)

Siloam Springs, Ark., MOVIE PARK D. I. Exec: Earl L. Smith. (200)

Oklahoma

(NOTE: See also Dallas Territory)

Ada, Okla., TOWER D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Ada, Okla., #2 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (Under Construction)

Altus, Okla., ALTUS D. I., P. O. Box 267. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Alva, Okla., ALVA D. I. Exec: W. F. Denton. (400)

Anadarko, Okla., CADDO D. I., Hwy. 62. Exec: S. Butler. (300)

Antlers, Okla., KIAMOCHI D. I. Exec: J. L. Cooper. (240)

Ardmore, Okla., 77 NORTH D. I., West of City. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (500)

Ardmore, Okla., SKYVIEW D. I. Exec: E. B. Anderson and James Gaskin. (300)

Ardmore, Okla., STAR-LITE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Atoka, Okla., CHOCTAW D. I. Exec: Glen D. Thompson, Thompson Ths., Oklahoma City. (200)

Bartlesville, Okla., BELLE MEAD D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Bartlesville, Okla., HILLTOP D. I., Hwy. 60, Notawa Rd. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (420)

Bethany, Okla., LAKE AIR D. I. (Oklahoma City). Exec: R. E. McFarland. (550)

Blackwell, Okla., PIONEER D. I., Box 520. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (302)

Bristow, Okla., PIRATE D. I. Exec: Henry Simpson. (150)

Broken Arrow, Okla., BROKEN ARROW D. I., Hwy. 51. Exec: Jim Rosa, and K. F. James. (280)

Checotah, Okla., 69 D. I., S. of town on U. S. #69. Exec: Dick and Dave Crumpler. (200)

Chickasha, Okla., CHIEF D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Claremore, Okla., ROGERS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Cleveland, Okla., CLEVELAND D. I. Exec: Jack Crain. (350)

Clinton, Okla., CLINTON D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (256)

Coalgate, Okla., SYKVIEW D. I. Exec: R. B. Brisco, and E. C. Carter. (200)

Collinsville, Okla., CARDINAL D. I. Exec: Robert Downing. (182)

Comanche, Okla., 81 D. I. Exec: George M. Jennings. (360)

Cordell, Okla., VAD D. I. Exec: Mercier and Black. (225)

Cushing, Okla., SUNDOWN D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (287)

Davenport, Okla., RIG D. I. Exec: J. E. Stribling. (200)

Davis, Okla., ARBUCKLE D. I. Exec: W. T. Kerr. (250)

Del City, Okla., DEL CITY D. I. (Oklahoma City), 2900 Epperly Dr. Exec: R. Lewis Barton. (700)

Drumright, Okla., DRUMRIGHT D. I. Exec: R. L. Briggs. (275)

Duncan, Okla., DUNCAN D. I., Hwy. 81, P. O. Box 707. Exec: Video Ind. Ths., 11½ N. Lee Ave, Oklahoma City. (459)

Duncan, Okla., NORTH 5th ST. D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (347)

Edmond, Okla., SUNDOWN D. I., Hwys. 66 and 67. Exec: M. A. Harris. (300)

Elk City, Okla., 66 D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Elmore City, Okla., R AND R D. I. Exec: Robert W. Orr. (200)

El Reno, Okla., SQUAW D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (220)

Enid, Okla., ENID D. I., Hwy. 81. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (618)

Enid, Okla., TRAIL D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Erick, Okla., BEARCAT D. I. Exec: Lamar Guthrie. (100)

Frederick, Okla., SUNSET D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (295)

Grandfield, Okla., DRIVE IN. Exec: L. D. Burns. (Under Construction)
Abernathy. (250)

Grove, Okla., GROVE D. I. Exec: Eugene Vasser. (250)

Guthrie, Okla., BEACON D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (328)

Guymon, Okla., HIGHWAY 54 D. I. Exec: Lewis Long, 1017 N. Main. (430)

Henrietta, Okla., HILLTOP D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (328)

Hobart, Okla., CREST D. I., Hwy. 183. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (336)

Holdenville, Okla., BUCKSKIN D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Hollis, Okla., HOLLIS D. I. Exec: Watt Long. (235)

Hugo, Okla., CIRCUS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Kingfisher, Okla., THOMAS D. I. Exec: Don

Laverne, Okla., SHAMROCK D. I. Exec: E. L. O'Hern. (250)

Lawton, Okla., AUSTIN'S D. I., Hwy. 62, 1501 Elm St. Exec: Joe Turner, Lawton Th. Co. (500)

Lawton, Okla., HANKINS'S D. I. Exec: Ned and Jack Hankins. (600)

Lawton, Okla., MT. SCOTT D. I., P. O. Box 1248. Exec: Volney Hamm. (308)

Lindsay, Okla., HILL CREST D. I., Hwy. 76. Exec: Avece T. Waldron. (300)

Madill, Okla., MADILL D. I. Exec: Clyde Wallace. (250)

Mangum, Okla., CAPITOL D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (282)

Marlow, Okla., LONGHORN D. I., 81 Highway. Exec: O. L. Smith. (300)

McAlester, Okla., SKY VU D. I. Exec: Mae Lankister. (326)

Miami, Okla., SOONER D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Miami, Okla., TRI STATE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (400)

Muskogee, Okla., SUNSET D. I. Exec: Otis L. Branson. (302)

Norman, Okla., RANCHO D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (312)

Norman, Okla., RIVERSIDE D. I., Hwy. 9. Exec: Elvin B. Anderson. (300)

Nowata, Okla., PARK VU D. I. Exec: C. V. Fleming. (300)

Nowata, Okla., SKY-VU D. I., Rt. 60. Exec: Bud Hicks and J. J. Bowden. (265)

Oklahoma City, Okla., AIRLINE D. I. Exec: R. Lewis Barton. (700)

Oklahoma City, Okla., BARTON'S 77 D. I., 822 S. W. 29th St. Exec: R. Lewis Barton. (750)

Oklahoma City, Okla., BOMBER D. I. (Midwest City), S.W. 15th and Douglas Blvd. Exec: R. Lewis Barton. (600)

Oklahoma City, Okla., CIRCLE D. I., N.W. of City, 3717 N. Meridian. Exec: R. Lewis Barton. (550)

Oklahoma City, Okla., NORTHEAST 66 D. I. P. O. Box 352 A, R. R. #1. Exec: R. Lewis Barton. (600)

Oklahoma City, Okla., N.W. HIWAY D. I., 2825 N.W. 26th, 1615 Carlisle Rd. Exec: R. Lewis Barton. (1000)

Oklahoma City, Okla., SKYVIEW D. I., N. E. 23rd St. Exec: Sam Caporal. (1000)

Oklahoma City, Okla., TINKER D. I. (Midwest City), 500 N. Air Depot Blvd., Box 5558. Exec: R. Lewis Barton. (450)

Oklahoma City, Okla., TWILIGHT D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave. (700)

Okmulgee, Okla., TOWER D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (358)

Pauls Valley, Okla., BREWER D. I. Exec: L. E. Brewer. (400)

Pawhuska, Okla., CORRAL D. I., 1½ mi. So. of Town. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (288)

Pawnee, Okla., LAKESIDE D. I. Exec: Milan G. Steele. (200)

Ponca City ,Okla., AIRLINE D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Ponca City, Okla., SKYVUE D. I., Hwy. 77. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (472)

Poteau, Okla., TOWER D. I., Rt. 1, Box 20. Exec: Ray Hughes and O. K. Kemp. (300)

Prague, Okla., BAR T D. I. Exec: S. Barton. (200)

Pryor, Okla., JOYCE D. I. Exec: Taylor Joyce. (225)

Purcell, Okla., SKYVUE D. I. Exec: K. Lee Williams, Sevier Th. Bldg., DeQueen, Ark. (250)

Sapulpa, Okla., TEE PEE D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (272)

Seminole, Okla., SKYWAY D. I., Hwy. 270. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (370)

Shattuck, Okla., EL-CO D. I. Exec: Garland Wilson. (141)

Shawnee, Okla., STARLITE D. I., Hwy. 18. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (484)

Shawnee, Okla., TECUMSEH D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Spiro, Okla., SUNSET D. I. Exec: L. C. Carter. (200)

Stigler, Okla., MEADOW D. I. Exec: Jack Pierce. (150)

Stillwater, Okla., MOONLITE D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (327)

Sulphur, Okla., COMET D. I. Exec: J. Rochelle. (220)

Sulphur, Okla., STARLITE D. I. Exec: Izah Adams, and W. T. Kerr. (350)

Tishomingo, Okla., CHICKASAW D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (300)

Tulsa, Okla., ADMIRAL D. I., East Admiral St. Exec: Alex Blue, and H. B. Robb, Jr. (700)

Tulsa, Okla., AIRVIEW D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (700)

Tulsa, Okla., APACHE D. I., 3700 E. Apache St. Exec: Earl Snyder. (500)

Tulsa, Okla., BELLAIRE D. I. Exec: L. E. Snyder, Jr. (600)

Tulsa, Okla., RIVERSIDE D. I., 71st St. So. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (600)

Tulsa, Okla., SAND SPRINGS D. I., 7600 Sand Springs Rd., Rt. 6. Exec: J. E. Jones, Mgr. (507)

Tulsa, Okla., SHERIDAN D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (582)

Tulsa, Okla., 66 D. I., Hwy. 66. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (562)

Tulsa, Okla., SKYLINE D. I., 3800 N. Cincinnati St. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (648)

Velma, Okla., V-A D. I. Exec: W. J. Nelson. (224)

Vinita, Okla., LARIAT D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City. (300)

Wagoner, Okla., CHEROKEE D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (200)

Walters, Okla., OKLAHOMA D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (200)

Watonga, Okla., WATONGA D. I. Exec: Norman Terry. (300)

Wewoka, Okla., POW-WOW D. I. Exec: Video Independent Ths., 11½ N. Lee Ave., Oklahoma City. (271)

Wilburton, Okla., SUNSET D. I. Exec: K. Lee Williams, Sevier Th. Bldg., DeQueen, Ark. (150)

Wilson, Okla., DERRICK D. I. Exec: Glen Thompson, Thompson Ths., Oklahoma City. (250)

Woodward, Okla., TERRYTIME D. I. Exec: D. V. Terry. (416)

Texas

(NOTE: See also Dallas Territory)

Borger, Tex., BUNAVISTA D. I., Box 2086. Exec: John Fagan. (596)

Borger, Tex., PLAINS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (449)

Borger, Tex., TRI-CITY D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (330)

Canadian, Tex., CANADIAN D. I. Exec: C. L. Lance. (186)

Canyon, Tex., CANYON D. I. Exec: W. J. Wooten. (316)

Dimmitt, Tex., "51" D. I. Exec: H. H. Carlile. (221)

Dumas, Tex., PRAIRIE D. I., P. O. Box 867. Exec: H. S. McMurray. (400)

Earth, Tex., SUNSET D. I. Exec: E. T. Borum. (250)

Friona, Tex., CHIEF D. I. Exec: Marvin Lawson. (240)

Friona, Tex., ELK D. I. Exec: W. E. McGlothin. (250)

Lockney, Tex., SEALE D. I., P. O. Box 158. Exec: J. B. Seale. (200)

McLean, Tex., DERBY D. I. Exec: Amos Page. (128)

Memphis, Tex., TOWER D. I. Exec: Hollis Boren. (276)

Paducah, Tex., CHIEF D. I. Exec: H. B. Leathers. (225)

Pampa, Tex., PAMPA D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (384)

Pampa, Tex., TOP OF TEXAS D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (394)

Perryton, Tex., RANGER D. I. Exec: Virby Conley. (324)

Shamrock, Tex., PIONEER D. I. Exec: S. Worley. (300)

Spearman, Tex., WAGON WHEEL D. I. Exec: J. D. Willbanks. (250)

Sunray, Tex., BOCAROO D. I. Exec: Marvin Bell. (300)

Wellington, Tex., BRONCO D. I. Exec: Video Ind. Ths., 11½ N. Lee Ave., Oklahoma City, Okla. (302)

Wheeler, Tex., MUSTANG D. I. Exec: Lee Guthrie. (150)

OMAHA TERRITORY

Iowa

(NOTE: See also Des Moines and Saint Louis Territories)

Cherokee, Ia., CORRAL D. I. Exec: Pioneer Ct., St. Louis Park, Minn. (402)

Clarinda, Ia., DRIVE IN. Exec: Pioneer Ct., St. Louis Park, Minn. (400)

Council Bluffs, Ia., DRIVE IN. Exec: Central States Ths. Corp., Des Moines. (600)

Denison, Ia., DENISON D. I. Exec: Fred Ballantine ,and Co-Op Theatre Serv. (300)

Harlan, Ia., HARLAN D. I. Exec: Alferd Haals. (300)

Hawarden, Ia., WIGWAM D. I. Exec: H. J. Lankhorst, Jr. (300)

Milford, Ia., LAKELAND D. I. Exec: Jim Travis. (300)

Red Oak, Ia., DRIVE IN, Hwy. 34. Exec: Mrs. Carl Johnson. (200)

Sheldon, Ia., SHELDON D. I. Exec: Iowa United Ths., Des Moines. (348)

Shenandoah, Ia., IOWA D. I. Exec: Robert Holdridge. (300)

Sioux City, Ia., GORDON TWIN D. I., 2310 E. Solway. Exec: Roy Warfield. (987)

Sioux City, Ia., 75 D. I., 2900 N. Hwy. 75. Exec: Affiliated Ths., Inc. (750)

Spirit Lake, Ia., SPIRIT D. I. Exec: Phil March, March Bros., Wayne, Nebr. (396)

Storm Lake, Ia., DRIVE IN. Exec: Pioneer Ct., St. Louis Park, Minn. (375)

Nebraska

(NOTE: See also Denver Territory)

Beatrice, Nebr., CREST D. I. Exec: Harold Struve, Deshler, and Co-Op Theatre Serv. (400)

Broken Bow, Nebr., BROKEN BOW D. I. Exec: C. Howard Kennedy. (400)

Columbus, Neb., DRIVE IN. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

East Omaha, Nebr., AIRPORT D. I. Exec: J. Robert Hoff, and Co-Op Theatre Serv. (700)

Falls City, Nebr., BREEZY HILL D. I., Hwy 73. Exec: J. Cook. (404)

Fremont, Nebr., DRIVE IN. Exec: Central States Ths. Corp., Des Moines, Ia. (500)

Grand Island, Nebr., DRIVE IN. Exec: Commonwealth Ths., Inc., 215 W. 18th St., Kansas City, Mo. (450)

Hastings, Nebr., DRIVE IN. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

Hebron, Nebr., OREGON TRAIL D. I. Exec: Harold Struve, Deshler, and Co-Op Th. Serv. (200)

Holdrege, Nebr., TOWER D. I. Exec: Harold Struve, Deshler, and Co-Op Theatre Serv. (250)

Kearney, Nebr., KEARNEY D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (450)

Lexington, Nebr., MOTOR MOVIE D. I. Exec: Loton Todd. (375)

Lincoln, Nebr., STARVIEW OUTDOOR D. I., Vine St. nr. 48th. Exec: I. Dubinsky. (600)

Lincoln, Nebr., WEST "O" D. I., 24th & O Sts. Exec: I. Dubinsky. (500)

Long Pine, Nebr., PINEVIEW D. I. Exec: Rauley W. Connell. (225)

Nebraska City, Nebr., TRAIL D. I. Exec: S. M. Metcalf. (250)

Neligh, Nebr., STARLITE D. I. Exec: Walt Bradley. (328)

Norfolk, Nebr., DRIVE IN. Exec: Central States Ths., Corp., Des Moines, Ia. (400)

North Loup, Nebr., NORTH LOUP D. I. Exec: R. E. Burrows, and Theatre Booking Serv. (235)

Omaha, Nebr., 84 AND CENTER D. I. (Formerly West Chester), P. O. Box 71, Sta. D. Exec: Herman Gould, and Theatre Booking Serv. (700)

Omaha 10, Nebr., GOLDEN SPIKE D. I. 114th and Dodge St. Exec: Golden Spike Th. Corp., and Co-Op Theatre Serv. (750)

Omaha, Nebr., GRANDVIEW D. I. Exec: E. C. Petsch, and Theatre Booking Serv. (300)

Omaha, Nebr., 76 West DODGE D. I., 79th and Dodge Sts. Exec: Central States Ths. Corp., Des Moines, Ia. (650)

Omaha, Nebr., SKY-VIEW D. I. Exec: Benson Dr. Corp., Ralph Blank, Pres. (1122)

O'Neill, Nebr., O'NEILL D. I. Exec: R. V. Fletcher, and Theatre Booking Serv. (350)

South Sioux City, Nebr., SEVEN-T-SEVEN D. I. Exec: A. E. Thacker. (290)

Valentine, Nebr., VALENTINE D. I. Exec: Robert Sharp, and Theatre Booking Serv. (300)

Wayne, Nebr., DUDE RANCH D. I. Exec: Phil March. (300)

West Point, Nebr., Y-KNOT D. I. Exec: Phil Lannon, and Theatre Booking Serv. (296)

York, Nebr., PINES D. I. Exec: Central States Ths. Corp., Des Moines, Ia. (350)

South Dakota

(NOTE: See also Denver and Minneapolis Territories)

Gregory, S. D., HILLTOP D. I., Hwy. 16. Exec: Roy Metzger. (240)

Tyndall, S. D., SKYHI D. I. Exec: F. E. Metzger. (250)

Winner, S D., DRIVE IN. Exec: Harvey Fast, and Co-Op Theatre Serv. (200)

Yankton, S. D., MOVIELAND D. I. Exec: M. Slaughter and Tom Butler, and Theatre Booking Serv. (300)

PHILADELPHIA TERRITORY

Delaware

(NOTE: See also Washington Territory)

Dagsboro, Del., DEL-AIR D. I., R.F.D. #3, Cambridge, Md. Exec: Al Goodyear. (528)

Dover, Del., KENT D. I., Rt. 113. Exec: M. Schwartz. (375)

Felton, Del., DIAMOND STATE D. I. Exec: Mrs. Millie Steel. (300)

Lewes, Del., MIDWAY D. I. Exec: William Derrickson. (600)

Milford, Del., SUPER #113 D. I. Exec: Ray Woodward, % Orpheum Th., Franklin, Pa. (400)

Newport, Del., PLEASANT HILL D. I., West Newport Pike. Exec: Robert P. Maclary, and Tri-States Buying and Booking Serv., Philadelphia, Pa. (750)

Wilmington, Del., ELLIS D. I. (New Castle), Rt. 13. Exec: Ellis Ct., 1225 Vine St., Philadelphia 7, Pa. (550)

Wilmington, Del., KERRY D. I., 20th St. and Gov. Printz Blvd. Exec: R. R. M. Carpenter, Jr., 1007 Tatnall St., and Tri-States Buying and Booking Serv., Philadelphia, Pa. (526)

New Jersey

(NOTE: See also New York Territory)

Absecon, N. J., DRIVE IN, Absecon Blvd. Exec: Walter Reade Ths., Mayfair House, Deal Rd., Oakhurst. (Under Construction)

Bridgeton, N .J., BRIDGETON D. I., Rt. 77. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (532)

Burlington, N. J., BURLINGTON D. I., Route 25. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (500)

Camden, N. J., GARDEN STATE D. I., Route 40. Exec: R. W. Paleece, Savar Amuse., 4605 Westfield Ave. (710)

Gloucester Heights, N. J., STARLITE D. I., Rt. 45 and Nicholson Rd. Exec: Smith and Liggett, and A. and L. Sablosky Ent., Norris Th., Norristown, Pa. (900)

Pleasantville, N. J., ATLANTIC D. I., P. O. Box 33. Exec: Walter Reade Ct., Mayfair House, Deal Rd., Oakhurst. (792)

Robbinsville, N. J., TRENTON D. I., Rt. 130. Exec: Walter Read Ct., Mayfair House, Deal Rd., Oakhurst. (700)

Vineland, N. J., DELSEA D. I., Delsea Drive and Grant Ave. Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (716)

Wildwood, N. J., WILDWOOD D. I., P. O. Box 22 (Rio Grande). Exec: M. J. Fox, 1015 Chestnut St., Philadelphia, Pa. (500)

Pennsylvania

(NOTE: See also Pittsburgh Territory)

Allentown, Pa., AIRPORT D. I., Route 987. Exec: Fabian Ths., 1501 Broadway, New York 36, N. Y. (800)

Allentown, Pa., BOULEVARD D. I., 556 Union Blvd., Rt. 22. Exec: Fabian Ths., 1501 Broadway, New York 36, N. Y. (930 and 380 Seats)

Allentown, Pa., SUPER SKYWAY D. I. Exec: Sol Schocker. (1000)

Allentown, Pa., WEST END D. I. Exec: Sol Schocker. (1000)

Andalusia, Pa., ANDALUSIA D. I., 7219 Bristol Pike. Exec: Earle Sweigert. (650)

Barnesville, Pa., COUNTRY VIEW D. I. (Lakewood). Exec: Walter S. Finch. (400)

Bath, Pa., BATH D. I. Exec: John Van Auken, 426 E. North St., Bethlehem. (100)

Bensalem Township, Pa., LINCOLN D. I. (Langhorne), Roosevelt Blvd. and City Line. Exec: Neil Hellman. (925)

Berlinsville, Pa., ROUTE 45 D. I., Route 45. Exec: William D. Beck, Rt. 2, Walnutport, and Tri States Buying and Booking Serv., Philadelphia. (500)

Bethlehem, Pa., ACE D. I. 1111 E. 4th St. Exec: Louis Lucas. (55)

Bethlehem, Pa., BETHLEHEM D. I., Rt. 22. Exec: Harold Hirshberg. (830)

Brandonville, Pa., STARLITE D. I., Rt. 924. Exec: Melvin Heinbach, St. Clair, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Burnham, Pa., BURNHAM D. I. (Lewistown), Logan Blvd. Exec: S. H. Rothermel, and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (650)

Chambersburg, Pa., SUNSET D. I., R. D. #2. Exec: Harold J. Kagen, and Tri-States Buying and Booking Serv., Philadelphia. (700)

Clifton Heights, Pa., FAMILY D. I., 713 Baltimore Ave. Exec: V. C. Smith, 840 Cooper St., Camden, N. J. (700)

Coatesville, Pa., COATESVILLE D. I., Route 30. Exec: Milton Schosberg. (402)

Collinsville, Pa., COLLINSVILLE D. I. Exec: Ernest E. Ness. (125)

Dallas, Pa., DALLAS D. I., R. D. #1. Exec: L. E. Groff, 215 Reynolds St., Kingston, and Hardin Coon, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (850)

Danville, Pa., ARROW D. I. Exec: K. and B. Th. Co., Inc., and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (300)

Devon, Pa., MAIN LINE D. I. Exec: W. W. and V. C. Smith, 840 Cooper St., Camden, N. J. (800)

Dickson City, Pa., CIRCLE D. I., Route 6. Exec: Albert Frangel, 40 Main St., Simpson, and National Serv. Corp., Schaff Bldg., Philadelphia. (700)

Dillsburg, Pa., HAAR'S D. I., R. D. #3. Exec: Vance W. Haar, and Milgrim Ths., % Avenue Th., Philadelphia. (520)

Drums, Pa., HAZLETON D. I., Route 309. Exec: Irving Refowich. (400)

Duncannon, Pa., HACKENBERG FAMILY D. I., R.D. #2. Exec: J. J. Hackenberg. (250)

DuPont, Pa., COMERFORD D. I., DuPont Hwy. Exec: Comerford Ct., Scranton. (800)

Dushore, Pa., DUSHORE D. I. Exec: George Gatta, P. O. Box 112, Mildred. (214)

Easton, Pa., STARLITE D. I. (Formerly Eastern Medina), Rt. 22. Exec: A. Adlman, and Ligget and Florin Ct., 220 W. 42nd St., New York, N. Y. (825 and 100 Seats)

Eddystone, Pa., CHESTER PIKE D. I., Route 13. Exec: A. M Ellis Th. Ct., 1225 Vine St., Philadelphia. (700)

Espy, Scott Twshp., Pa., FAMILY D. I. (Bloomsburg), R. D. #5, Bloomsburg. Exec: J. Engle, Wilkes-Barre. (750)

Eynon, Pa., MID-VALLEY D. I. (Carbondale). Exec: Comerford Ct., Scranton. (800)

Frackville, Pa., HI-WAY D. I., Route 122. Exec: Paul Kerrigan, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (400)

Freeland, Pa., POPULAR D. I., Route 490. Exec: J. L[illegible], 87 Laurel St., Hazleton, and Tri-States Buying and Booking Serv., Philadelphia. (260)

Gratz, Pa., SKY VU D. I. Exec: Eston, Artz and Carl, Spring Glen, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Greentown, Pa., WHITE BEAUTY D. I. (Lake Wallenpaupak). Exec: Richard and Leonard Guccini, and Tri-States Buying and Booking Serv., Philadelphia. (200)

Halifax, Pa., HALIFAX D. I. (Formerly Triangle). Exec: F. Schreib, Higgins and L. Leitzel, Klingerstown, and Tri-States Buying and Booking Serv., Philadelphia. (400)

Harrisburg, Pa., HARRISBURG D. I., Rt. 22 and Linglestown Rd. Exec: Paul Kerrigan, Frackville, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (850)

Harrisburg, Pa., KEYSTONE D. I., Route 422. Exec: A. and L. Sablosky Ent., Norris Th., Norristown. (700)

Harvey's Lake, Pa., SANDY BEACH D. I. (Alderson). Exec: Sam Slomowitz, 189 Barney St., Wilkes-Barre, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (350)

Hazleton, Pa., LAUREL D. I., P. O. Box 315L, R. D. #1. Exec: Anthony Sacco, 82 First Ave. (475)

Hogestown, Pa., SILVER SPRINGS D. I. (Harrisburg), Carlisle Pike, Rt. 11. Exec: R. J. Jones, Holly Th., Mt. Holly, and National Service Corp., Schaff Bldg., Philadelphia. (750)

Hometown, Pa., VALLEY D. I. (Tamaqua), Rt. 2. Exec: Petrole Bros. (500)

Hummelstown, Pa., MIDWAY D. I. Exec: Louis Schiffman. (208)

Hummels Wharf, Pa., NUWAY D. I., Rt. 11-15, between Selinsgrove and Sunbury. Exec: M. L. Spiegelmeyer. (1000)

Hunlock Creek, Pa., GARDEN D. I., R. D. #2. Exec: T. R. Cragle, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (418)

Indian Orchard, Pa., MAPLE D. I. Exec: Michael Delfino, R. D. #4, Honesdale, and Tri-States Buying and Booking Serv., Philadelphia. (250)

Krumsville, Pa., KRUMSVILLE D. I., Rt. 22. Exec: John Van Auken, 426 E. North St., Bethlehem. (100)

Lake Ariel, Pa., WAYNE D. I., Route 90. Exec: Dan Oncavage, and Tri-States Buying and Booking, Philadelphia. (250)

Lancaster, Pa., SKY-VUE D. I., Route 30 East. Exec: H. Chertcoff Th. Ct. (825)

Langhorne, Middletown Twnshp., ROOSEVELT D. I. (Morrisville). Exec: Neil Hellman. (800)

Lebanon, Pa., KEY D. I., Lebanon and Reading Hwy. Exec: Comerford Ct., Scranton. (500)

Lehighton, Pa., MAHONING D. I., R. D. #1, Box 73. Exec: James Humphries. (600)

Lewistown, Pa., MIDWAY D. I., 29 N. Brown St. Exec: Irwin Berney, and National Service Corp., Schaff Bldg., Philadelphia. (800)

Limerick, Pa., HIWAY D. I. Exec: William Goldman Ct., Philadelphia. (750)

Linden, Pa., HARVEST MOON D. I., P. O. Box 3. Exec: C. F. Beck, and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (300)

Lock Haven, Pa., PARK D. I. Exec: Tri-States Buying and Booking Serv., Philadelphia. (450)

Matamoras, Pa., TRI-STATE D. I., Box 569. Exec: Irving Hulst, 7 Winchester Ave., Middletown, N. Y., and Tri-States Buying and Booking Serv., Philadelphia. (400)

Montgomery, Pa., PIKE D. I. Exec: Charles Collins, 640 6th Ave., Williamsport. (600)

Moosic, Pa., OAKHILL D. I. Exec: Scavo Bros., 119 Oak St., Old Forge, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Morrisville, Pa., MORRISVILLE D. I. Exec: Bob Baranoff, and Tri-States Buying and Booking Serv., Philadelphia. (400)

Mountain Top, Pa., SUNSET D. I., Route 309. Exec: V. Novinski and Assoc. (250)

Muncy, Pa., STARLITE D. I., Rt. 202-14, P. O. Box 237. Exec: Paul Shaffer, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (720)

Natalie, Pa., NATALIE D. I. (Mount Carmel), Rt. 54. Exec: Max Korr Ct., Allentown. (700)

Neshaminy, Pa., BUCKS COUNTY D. I. Exec: Claude Schlanger. (750)

New Cumberland, Pa., SHORE D. I. Exec: Milgram Ths., 2713 Germantown Ave., Philadelphia. (—)

New Oxford, Pa., CROSS KEYS D. I., Lincoln Hwy., Box 25. Exec: DeLuxe Th. Serv., 1237 Vine St., Philadelphia. (450)

Newton Lake, Pa., IDEAL D. I. (Carbondale), Rt. 70. Exec: J. E. Cerra, Carbondale, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (435)

Newville, Pa., CUMBERLAND D. I., Carlisle-Shippensburg Rd. Exec: Don Mowery, and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (500)

Norristown, Pa., RIDGE PIKE D. I. (Conshohocken), R. D. #2. Exec: A. and L. Sablosky Ent., Norris Th. (1000)

Orefield, Pa., SHANKWEILER'S D. I. Exec: W. F. Shankweiler, and DeLuxe Th. Serv., 1237 Vine St., Philadelphia. (274)

Orrtanna, Pa., CALENDONIA D. I., Hwy. 30, Hwy. 1. Exec: Tri-States Buying and Booking Serv., Philadelphia. (400)

Philadelphia, Pa., SOUTH CITY D. I., Broad St. and Pattison Ave. Exec: Charles Goldfine. (1200)

Pine Grove, Pa., PINE GROVE D. I., R. D. #2. Exec: Eston Artz, Spring Glen, and Tri-States Buying and Booking Serv., Philadelphia. (300)

Pittston, Pa., RIVER VIEW D. I. Exec: Mr. M. Favini, and Tri-States Buying and Booking Serv., Philadelphia. (600)

Pottsville, Pa., POTTSVILLE D. I., Rt. 122, Mill Creek Rd. Exc: Charles Poorman, 640 Mauch Chunk St., and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (550)

Quakertown, Pa., STARLIGHT D. I. Exec: Tri-States Buying and Booking Serv., Philadelphia. (600)

Rouzerville, Pa., RED RUN D. I. (Waynesboro), P. O. Box 527. Exec: W. R. Saunders, 207 First Federal Bldg., Wooster, O. (500)

Royersford, Pa., HIWAY D. I., R. D. #1. Exec: Harold E. Bell. (800)

Saylorsburg, Pa., BLUE RIDGE D. I. Exec: Stanley and Raymond F. Mackes. (300)

Sayre, Pa., VALLEY D. I. Exec: Frank J. Flocco, 413 W. State St., Ithaca, N. Y. (600)

Schuylkill Haven, Pa., RENNINGER D. I., Route 122. Exec: C. Swade, 48 S. Lehigh, Frackville. (400)

Shamokin, Pa., SHAMOKIN D. I., P. O. Box 291. Exec: Walter F. Finch. (200)

Shimersville, Pa., SHIMERSVILLE D. I. (Emmaus), R. D. 1, Rt. 29. Exec: J. Christofaro. (276)

Springhouse, Pa., 309 D. I. (Montgomeryville), Box 128. Bethlehem Pike at Welsh Rd. Exec: V. C. Smith, 840 Cooper St., Camden, N. J. (550)

Stony Creek Mills, Pa., MT. PENN D. I., P. O. Box 965, Reading. Exec: Jay Emanuel Ths., and Fabian Ths., Philadelphia. (750)

Strinestown, Pa., STRINESTOWN D. I. Exec: G. W. Poe, Jr., R. D. #1, Manchester, and Tri-States Buying and Booking Serv., Philadelphia. (150)

Stroudsburg, Pa., POCONO D. I. (Bartonsville), Rt. 611. Exec: Alfred Mazur, and Melvin Heinbach, St. Clair, and Tri-States Buying and Booking Serv., Philadelphia. (560)

Temple, Pa., READING D. I., Berkley Rd., Rt. 222, Box 408. Exec: Jay Emanuel Ths., and Fabian Ths., Philadelphia. (844)

Thomasville, Pa., LINCOLN D. I. (York Co.), Rt. 30, R.D #1. Exec: H. J. Halliwell, C. Smyth, E. M. Thorne, and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (816)

Tunkhannock, Pa., STARLITE D. I. (Eatonville), R.D. #5. Exec: Robert G. McLaud. (250)

Wellsboro, Pa., "Y" D. I. Exec: Larry Woodin, Arcade Th., and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia (300)

West Chester, Pa., 202 D. I. (Painter's Crossroads). Exec: Ike L. Lenz, P. O. Box 116, West Chester, and Tri-States Buying and Booking Serv., Philadelphia. (500)

West Milton, Pa., SILVER MOON D. I., Rt. 15 between Lewisburg and West Milton. Exec: Frank Lewis and Frank W. Royer, P. O. Box 631, Lewisburg, and Tri-States Buying and Booking Serv., Philadelphia. (600)

West Wyoming, Pa., MOONLITE D. I., 1190 Shoemaker Ave. Exec: James Rizzo, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (421)

Wilkes-Barre, Pa., MIDWAY D. I. R. D. #2, 182 Carlisle. Exec: James M. Rocco Castrignano, 17 Glen St., and Tri-States Buying and Booking Serv., Philadelphia. (350)

Williamsport, Pa., LYCOMING D. I., 21 Washington Blvd., P. O. Box 300. Exec: Albert L. Shafer, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (800)

Williamstown, Pa., TEMPLE D. I., Tower City-Lykens Rd. Exec: John Shade, and Milgram Ths., 2713 Germantown Ave., Philadelphia. (300)

Willow Grove, Pa., BUCKS CO. D. I., Rt. 611. Exec: (—)

Wysox, Pa., WYSOX D. I., Box 19. Exec: Robert G. McLaud. (400)

York, Pa., STONY BROOK D. I. (East York), Route 30. Exec: R. S. Nessley, and Allied Motion Picture Serv., 201 N. Broad St., Philadelphia. (825)

PITTSBURGH TERRITORY

Pennsylvania

(NOTE: See also Philadelphia Territory)

Aliquippa, Pa., GREEN GARDENS D. I., Hopewell Township. Exec: James and Joseph Taylor, and Stearn-Hanna Co-Operative Th. Service. (350)

Aliquippa, Pa., KANE ROAD D. I. Exec: Stephen Gray, and F. D. Moore Th. Serv. (350)

Altoona, Pa., ALTOONA D. I., Route 36. Exec: Earl Beckwith, Blatt Bros. Ths., 194 Castle Shannon Blvd., Pittsburgh 28. (700)

Altoona, Pa., SUPER 220 D. I., Rt. 220. Exec: Grance Outdoor Ths., and F. D. Moore Th. Serv. (600)

Baden, Pa., ABC D. I., Rt. 88, P. O. Box 142. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Stearn-Hanna Co-Operative Th. Serv. (750)

Beaver, Pa., TUSCA D. I., Box 122. Exec: Dr. Lewis H. Urling, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Beaver Falls, Pa., HI-WAY 51 D. I., Route 51. Exec: John Wincek and Ralph Tate, 226 Meyer Ave., New Castle, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Beaver Falls, Pa., SPOTLIGHT 88 D. I., Route 88. Exec: Ralph Felton, 1025 Rose Ave., New Castle, and Stearn-Hanna Co-Operative Th. Serv. (600)

Bedford, Pa., MOONLIGHT D. I., R. D. #2. Exec: Al Burtnett, 113 W. Pitt St. (350)

Belle Vernon, Pa., SUPER #71 SECTION #1 D. I., Rts. 71 and 711. Exec: Danny Costello, and Vincent Corso, Star Distr. Agy., Pittsburgh. (700)

Belle Vernon, Pa., SUPER #71 SECTION #2 D. I., Rts. 71 and 711. Exec: Danny Costello, and Vincent Corso, Star Distr. Agy., Pittsburgh. (600)

Ben Avon, Pa., R. D. 3 (Pittsburgh 2), CAMP HORNE D. I. (Ohio Twnshp.). Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (600)

Bridgeville, Pa., EL RANCHO D. I., Rt. 28, Box 231. Exec: Romeo Chiappini and John Rossino, 800 Michigan Ave., Jeanette, and Stearn-Hanna Co-Operative Th. Serv. (750)

Brookville, Pa., MOONLIGHT D. I., R. D. #4. Exec:: O. A. Holobough. (300)

Brownsville, Pa., FICK'S D. I., P. O. Box 127. Exec: Basle and Laskey Entr., and F. D. Moore Th. Serv. (400)

Butler, Pa., GEIBEL'S D. I., Route 68, R. D. #2. Exec: J. Geibel. (200)

Butler, Pa., HILL-TOP D. I., Rt. 68. Exec: R. N. Trautman (350)

Butler, Pa., SKYWAY AUTO D. I., Rt. 68, P. O. 647. Exec: Geibel Bros. (350)

Carmichaels, Pa., SKYVIEW D. I., Route 88. Exec: L. Stutler, and Duard Coe. (350)

Carroltown, Pa., HI-WAY D. I. Exec: Thomas Woods, and John M. Ridilla, P. O. Box 150, Latrobe. (300)

Chicora, Pa., CHICORA D. I. (Butler Co.). Exec: Earl Beckwith, Blatt Bros. Ths., 194 Castle Shannon Blvd., Pittsburgh 28. (350)

Circleville, Pa., MAPLE D. I., Rt. 30. Exec: Max Arnold and Jack Judd, and Associated Drive In Ths. (900)

Clarion, Pa., MIDWAY D. I., 108 Greenville Ave. Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh 19. (425)

Claysville, Pa., SUNSET BEACH D. I., Rt. 40, R. D. #1. Exec: C. M. Ducray, and Stern-Hanna Th. Serv. (300)

Clearfield, Pa., SUPER 322 D. I., Rt. 322. Exec: Theodore Grance, Frick Bldg., Pittsburgh, and Star Distr. Agy., Pittsburgh. (600)

Conneaut Lake, Pa., LAKESIDE D. I., Rt. 18. Exec: Fred E. Hasley. (400)

Connellsville, Dunbar Twp., Pa., COMET D. I., Rt. 119. Exec: Ted Laskey, and Moore Th. Serv. (300)

Coraopolis, Pa., KENMAWR D. I., Rt. 51. Exec: Grance Outdoor Ths. and Star Distr. Agy., Pittsburgh. (400)

Corry, Pa., CORRY D. I., Rt. 6. Exec: Earl Beckwith, Blatt Bros. Ths., 194 Castle Shannon Blvd, Pittsburgh 28. (350)

Crafton, Pa., TWIN HI-WAYS D. I., Rts. 22 and 30. Exec: Twin Hi-Way Corp., and Stearn-Hanna Co-Operative Th. Serv. (1000)

Cranberry, Pa., SKY HI D. I., Rts, 322 and 257. Exec: Ray Woodard, Kayton Th., Franklin. (432)

Donaldson Corners, Pa., MT LEBANON D. I. (Canonsburg), Rt. #19. Exec: William Basle, Basle Th., Washington, and Moore Th. Service, Pittsburgh. (350)

Dubois, Pa., HI-WAY D. I., Rt. 219. Exec: A. P. Way, and Stearn-Hanna Co-Operative Th. Serv. (350)

Ellwood City, Pa., BLUE SKY D. I., Zelienople Rd. Exec: E. Flesher, J. Popesuco, and Moore Th. Serv. (450)

Erie, Pa., LAKEVIEW D. I., R. D. #7, E. Lake Rd. Exec: Mrs. Tommy Cowell, and Stearn-Hanna Co Operative Th. Serv. (1000)

Erie, Pa., LAWRENCE PARK D. I., Rt. 5. Exec: Earl Beckwith, Blatt Bros. Ths.. 194 Castle Shannon Blvd., Pittsburgh 28. (350)

Erie, Pa., SKYWAY D. I., Rt. 5, 1012 Holland St. Exec: Dipson Th. Entr., and Stearn-Hanna Co-Operative Th. Serv. (550)

Erie, Pa., STAR D. I., 2515 W. 12th St., Rt. 5. Exec: Earl Beckwith, Blatt Bros. Ths., 194 Castle Shannon Blvd., Pittsburgh 28. (572)

Erie, Pa., SUPER #19 D. I. (Kearsage), Rt. 19. Exec: Pete Camerlo. (500)

Ford City, Pa., SUPER 66 D. I., Rt. 66. Exec: Serrao Bros. (450)

Freeport, Pa., SUNSET D. I., Freeport Rd. Exec: Hilltop Amuse. Co., Ray Woodard, Kayton Th., Franklin. (550)

Geistown, Pa., RICHLAND D. I. Exec: Somerset Amuse. Co., and Stearn-Hanna Co-Operative Th. Serv. (450)

Greensburg, Pa., ODIN D. I., Rt. 30. Exec: Thomas Woods, P. O. Box 150, Latrobe, and John M. Ridilla. (400)

Greentree Boro, Pa., GREENTREE D. I. (Pittsburgh 20), Mansfield-Noblestown Rd. Exec: Mrs. Charles Herman, Mrs. Wm. and Mrs. Harry Walker, and Stearn-Hanna Co-Operative Th. Serv. (600)

Grove City, Pa., LARKFIELD D. I., 313 Garden Ave. Exec: Chester Marsh, and Stearn-Hanna Co-Operative Th. Serv. (350)

Harmarville, Pa., HARMAR D. I., Rt. 28. Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (600)

Harrison City, Pa., ROSE D. I., R.D. #6, Irwin. Exec: Joseph Warren, and Vincent Corso, Star Distr. Agy., Pittsburgh. (800)

Huntingdon, Pa., HUNTINGDON D. I., Rt. 22. Exec: W. E. Anderson, Box F, Mt. Jewitt. (375)

Imperial, Pa., PENN-LINCOLN D. I., Rts. 22 and 30. Exec: Theodore Grance, Star Distr. Agy., Pittsburgh. (350)

Indiana, Pa., PALACE GARDENS D. I., Rt. 119. Exec: John Kerzan, and Vincent Corso, Star Distr. Agy., Pittsburgh. (500)

Indiana, Pa., SUPER 422 D. I., Hwy. 422. Exec: Manos Amuse. Co., and F. D. Moore Th. Serv. (399)

Indian Head, Pa., VALLEY D. I., R. D. #3, Box 296. Exec: Richard Sparks, and Moore Th. Serv. (300)

Irwin, Pa., SUPER #30 D. I., Route 30, R. D. #6. Exec: Joseph Warren, and Vincent Corso, Star Distr. Agy., Pittsburgh. (700)

Jefferson Township, Pa., COLONIAL D. I. (Pittsburgh), Rt. 51. Exec: Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (500)

Johnstown, Pa., WESTMONT D. I., P. O. Box 546, Somerset. Exec: County Amuse., and Stearn-Hanna Co-Operative Th. Serv. (800)

Kane, Pa., FAMILY D. I., Rt. 6. Exec: W. E. Anderson, Box F, Mt. Jewitt. (300)

Kittanning, Pa., COMMUNITY D. I., Route 422. Exec: Norbert and Ernest Stern, Assoc. Drive-Ins, Pittsburgh. (300)

Large, Pa., ECHO D. I., Rt. 51. Exec: Al Kurtak, and Star Distr. Agy., Pittsburgh. (1000)

Latrobe, Pa., HI-WAY D. I., Route 30, Box 150. Exec: Thomas Woods and John M. Ridilla, P. O. Box 150. (400)

Lemont Furnace, Pa., STARLITE D. I. (Uniontown), Rt. 119. Exec: Ted Laskey, 131 E. Fayette St., Uniontown, and Moore Th. Serv., Pittsburgh. (600)

Manifold, Pa., ROUTE #19 D. I. (Washington), Rt. 19. Exec: William Basle, Basle Th., Washington, and Moore Th. Serv., Pittsburgh. (500)

McKeesport, Pa., RAINBOW GARDENS D. I., Lincoln Highway and Rt. 88, P. O. Box 526, R. D. #1. Exec: Joseph Volpe, and Stearn-Hanna Co-Operative Th. Serv. (300)

Meadville, Pa., AIRWAY D. I., Route 19. Exec: Edward F. Dodge, and Stearn-Hanna Co-Operative Th. Serv. (385)

Monongahela, Pa., HILLTOP D. I., Route 877, R. D. #1. Exec: Lindley B. Dugan, Oliver Kinnear, and Frank Thomas. (400)

Monroeville, Pa., ROUTE #22 D. I. (Pittsburgh). Exec: Allied Drive-In Mgt. Corp., 540 Leader Bldg., Cleveland 15, Ohio. (700)

Moon Township, Pa., DEPENDABLE D. I. (Coraopolis Hgts.). Exec: Norbert and Ernest Stern, Assoc. Drive-In Ths., Pittsburgh (400)

Mundys Corner, Pa., FAMILY D. I., Route 22. Exec: Gus Vaveris, Strand Th. Bldg., Johnstown. (565)

New Castle, Pa., SKYLINE D. I., Route 224, 14 Magee St. Exec: Anthony, George, John and Carolyn Warren, Joseph Palmeri, and Stearn-Hanna Co Operative Th. Serv. (450)

New Castle, Pa., SUPER CASTLE D. I., Route 422. Exec: D. Castelli, and Vincent Corso, Star Distr. Agy., Pittsburgh. (760)

New Kensington, Pa., FAMILY D. I., Rt. 56, Box 12. Exec: Nat Farber, and Stearn-Hanna Co-Operative Th. Serv. (680)

North Huntingdon Township, Pa., BLUE DELL D. I., Rt. 30. Exec :Norbert and Ernest Stern, Associated Drive-Ins, Pittsburgh. (500)

Parnassus, Pa., GATEWAY D. I. (New Kensington). Exec: Serrao Bros., Circle Th., New Kensington. (525)

Pittsburgh, Pa., SILVER LAKE D. I., 809 Liberty Ave. Exec: Gabe Rubin, 970 Washington Blvd. (550)

Pittsburgh, Pa., SOUTH PARK D. I., Rt. 88. Exec: Norbert and Ernest Stern, Assoc. Drive-Ins. (400)

Portage, Pa., BAR-ANN D. I. Exec: George Wasko, and Stearn-Hanna Co-Operative Th Serv. (300)

Punxsutawney, Pa., STARLITE D. I., Route 30, 521 N. Main. Exec: Bert S. Fetterman, and Stearn-Hanna Co-Operative Th. Serv. (450)

Richland Township, Pa., RANALLI D. I., Rt. 8. Exec: Marco Ranalli, and Stearn-Hanna Co-Operative Th. Serv. (400)

Roulette, Pa., ROULETTE D. I., Rt. 6. Exec: Cliff Brown. (400)

Saint Marys, Pa., FAIRVIEW D. I., Rt. 255, Box 342, Windfall Rd. Exec: Joseph A. Farrell. (300)

Scottdale, Pa., EVERGREEN D. I., Box 71. Exec: Donald J. Ruth, Ruthorn Entr., and Stearn-Hanna Co-Operative Th. Service. (300)

Sewickley, Pa., BROOKSIDE D. I., Warrendale Rd., P. O. Box 199, R. D. #2. Exec: R. W. Thomson, Jr., and Stearn-Hanna Co-Operative Th. Serv. (400)

Sharon, Pa., HICKORY D. I., Route 62. Exec: Chris Lampros, 636 New Castle Rd., Farrell, and Moore Th. Serv. (650)

Slovan, Pa., TRI-STATE D. I. Exec: Mungello Bros. (350)

Smithfield, Pa., MOONLIGHT D. I., Route 119. Exec: Steve Danko, Danko, Sharpe and Dugan, and Stearn-Hanna Co-Operative Th. Serv. (350)

Somerset, Pa., ROOF GARDEN D. I., Rt. 219. Exec: J. R. Betters, Vogue Terrace, McKeesport, and Moore Th. Serv. (350)

Springboro, Pa., MAPLE D. I., Route 18. Exec: Paul Remaley, Erie, and Stearn-Hanna Co-Operative Th. Serv. (350)

State College, Pa., STARLIGHT D. I., Rt. 322. Exec: F. and S. Drive-In Th. Co., and F. D. Moore Th. Serv. (600)

Titusville, Pa., AUTO D. I., Rt. 8. Exec: Sam Yakish, and Stearn-Hanna Co-Operative Th. Serv. (500)

Transfer, Pa., REYNOLDS D. I., Greenville Rd., Rt. 18. Exec: Carl McKnight, Youngstown, Ohio, and Stearn-Hanna Co-Operative Th. Serv. (400)

Turtle Creek, Pa., GREATER PITTSBURGH D. I., Rt. 30. Exec: Joe Warren, Star Distr. Agy., Pittsburgh. (—)

United, Pa., RUSTIC D. I., Rt. 981. Exec: Bernard Buckheidt, and F. D. Moore Th. Serv. (350)

Vandergrift, Pa., LEE'S WOODLAND D. I., R.D. #1. Exec: Harold A. Lee, and Stearn-Hanna Co-Operative Th. Serv. (250)

Warren, Pa., WHITEWAY D. I., Rt. 6, R. D. #3. Exec: Ben White, and Stearn-Hanna Co-Operative Th. Serv. (400)

Waterford, Pa., SUNSET D. I., Route 97. Exec: Ray Woodward, Kayton Th., Franklin. (350)

Waynesburg, Pa., WAYNESBURG D. I., Route 180. Exec: Louis Stuler, Durward Coe. (300)

West Brownsville, Pa., CUPPIES D. I., Rt. 40. Exec: Basle and Laskey Entr., and F. D. Moore Th. Serv. (520)

West Mufflin, Pa., WOODLAWN D. I. Exec: Tice and Sattis, and Stearn-Hanna Co-Operative Th. Serv. (600)

Wexford, Pa., STARLIGHT D. I., Route 19. Exec: J. B. H. Entr., and Stearn-Hanna Co-Operative Th. Serv. (700)

Windber, Pa., SILVER D. I., Rt 56. Exec: John McKool, Maruice Fruhlinger, and Stearn-Hanna Co-Operative Th. Serv. (300)

West Virginia

(NOTE: See also Cincinnati and Washington Territories)

Belington, W. Va., STARLITE 92 D. I., Rt. 92. Exec: Gray Barker, Box 981, Clarksburg. (100)

Blacksville, W. Va., BLACKVILLE D. I., Rt. 7. Exec: Robert Bartlett. (200)

Buckhannon, W. Va., WEST'S D. I., Rts. 4 and 20. Exec: Garland West, and Stearn-Hanna Co-Operative Th. Serv. (350)

Camden-On-Gauley, W. Va., WEBSTER SPRINGS D. I. Exec: Arden Richards. (150)

Chester, W. Va., HILLTOP D. I., Rt. 2. Exec: Charles Pittinger, and Stearn-Hanna Co-Operative Th. Serv. (300)

Clarksburg, W. Va., ELLIS D. I., Rt. 50. Exec: Ellis Bros., and Joseph Feeney. (300)

Clarksburg, W. V., SNYDER D. I., Rt. 20. Exec: Clarence Snyder, and Gray Barker, Box 981. (300)

Clarksburg, W. Va., SKLINE D. I., Rt. 19. Exec: Sam Caputo, and Gray Barker, Box 981. (400)

Craigsville, W. Va., OUTDOOR D. I. Exec: Arden Richards. (200)

Elkins, W. Va., ELKINS D. I., Rt. 250. Exec: Bretsel Lang, Harold Talbott, and Gray Barker, Box 981, Clarksburg. (250)

Elm Grove, W. Va., GROVE D. I., Rt. 40. Exec: John Gardner. (500)

Evansville, W. Va., TOWN AND COUNTRY D. I., Rt. 50. Exec: Page Ervin. (100)

Fairmont, W. Va., STARLITE D. I., Pleasant Valley Rd., Rt. 73. Exec: Ted Laskey, Laskey Bros., 131 E. Fayette, Uniontown, Pa., and Moore Th. Service, Pittsburgh, Pa. (500)

Fairmount, W. Va., TWILIGHT D. I., Rt. 73. Exec: R. Hall, B. Artman, and Gray Barker, Box 981, Clarksburg. (500)

Fairview, W. Va., FAIRVIEW D. I. Exec: A. Mercer. (200)

Farmington, W. Va., LAZY A D. I. Exec: E. C. Wilson. (250)

Follansbee, W. Va., OHIO VALLEY D. I., Rt. 2. Exec: Thomas Anas, and Stearn-Hanna Co-Operative Th. Serv. (300)

Glendale, W. Va., GLENDALE D. I., Rt. 2. Exec: Stearn-Hanna Co-Operative Th. Serv. (350)

Grafton, W. Va., GRAFTON D. I., Rt. 250. Exec: Gray Barker, Box 981, Clarksburg. (250)

Grantsville, W. Va., COOK'S D. I., Rt. 5. Exec: John Cook. (190)

Mannington, W. Va., BLACKSHERE PARK D. I., Rt. 250. Exec: C. P. Church. (400)

Meadowbrook, W. Va., SUNSET D. I., Route 19. Exec: Ellis Bros., and Joe Feeney. (400)

Metz, W. Va., WILSON D. I., Route 250. Exec: Ernest L. Wilson, Box 16. (150)

Montrose, W. Va., FRIENDLY D. I., Route 219. Exec: Robert E. Phares, and Gray Barker, Box 981, Clarksburg. (150)

Morgantown, W. Va., OAKS D. I., Cheat Lake. Exec: Jack Maple, and George Sallows. (500)

Morgantown, W. Va., WESTOVER D. I. Exec: Basle and Laskey Entr., and F. D. Moore Ths. Serv. (500)

New Martinsville, W. Va., SKYWAY D. I., Rt. 2. Exec: James Work. (300)

New Martinsville, W. Va., WORK'S D. I., Rt. 2. Exec: James Work. (400)

Phillipi, W. Va., SKYVIEW D. I., Rt. 77. Exec: Alex Silay, and Steve Medve, and Gray Barker, Box 981, Clarksburg. (400)

Reedsville, W. Va., PINEVIEW D. I., Rt. 7. Exec: Gray Barker, Box 981, Clarksburg. (152)

Shinnston, W. Va., RICE D. I., Rt. 19. Exec: George Rice, and Stearn-Hanna Co-Operative Th. Serv. (400)

Short Creek, W. Va., STARLITE D. I., Rt. 2. Exec: George M. Kellas, 834 Main, Wheeling. (200)

Smithburg, W. Va., STARDUST D. I., Rt. 50. Exec: E. C. Wilson, P. O. Box 16, Metz. (110)

Weirton Heights, W. Va., BELLAIRE D. I., Rt. 22. Exec: J. and M. Yacos, 6 Park Ave., and Stearn-Hanna Co-Operative Th. Serv. (350)

Wellsburg, W. Va., BLUE MOON D. I., Rt. 27. Exec: Antoniao Cionni, Box 489, and Bernard Potts. (300)

Weston, W. Va., LOVETTS D. I., Rt. 19. Exec: Gray Barker, Box 981, Clarksburg. (150)

PORTLAND TERRITORY

Oregon

(NOTE: See also San Francisco Territory)

Albany, Ore., ALBANY D. I. Exec: Midway Ths., Inc., and A. Adamson Ct., 1923 N.W. Kearney, Portland 9. (500)

Ashland, Ore., LITHIA D. I., P. O. Box 407. Exec: Messrs. J. Selleck, and J. Putney. (350)

Baker, Ore., OLD TRAIL D. I., Box 641. Exec: Stanley Voeller. (308)

Beaverton, Ore., CANYON D. I. Exec: Canyon Drive-In Ths., Inc., and Adamson Ct., 1923 N.W. Kearney, Portland 9. (448)

Bend, Ore., BEND D. I. Exec: Forman Bros., and United Ths., Public Service Bldg., Portland. (350)

Burns, Ore., SUNDOWN D. I. Exec: Combs and Racine. (450)

Carlton, Ore., CORRAL D. I. (McMinnville). Exec: C. J. Briggs, Carlton Th. (396)

Cave Junction, Ore., FRONTIER D. I. Exec: W. Roberts, and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (300)

Coos Bay, Ore., BAY D. I. Exec: Western Amuse. (635)

Coquille, Ore., MYRTLE LANE D. I. Exec: Mr. and Mrs. Lloyd Claver, Coquille Ths. (392)

Cornelius, Ore., CAR VUE D. I. Exec: Oscar Phelps and Don Watrous, and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (462)

Corvallis, Ore., MIDWAY D. I. (Albany), Rt. #1. Exec: Midway Ths., Inc., and A. Adamson Ct., 1923 N.W. Kearney, Portland 9. (488)

Cottage Grove, Ore., MORELOCK D. I. Exec: Cleo Morelock, Arcade Th., and J. A. Clark, 1806 N.W. Kearney, Portland 9. (385)

Dallas, Ore., MOTOR-VUE D. I. Exec: Don Werhli, Creek Corp., and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (350)

DeLake, Ore., SWAN D. I., P. O. Box 524. Exec: Charles Slaney. (352)

Empire, Ore., MOTOR VUE D. I. (Coos Bay), Box 203. Exec: R. Mattecheck, and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (396)

Enterprise, Ore., GAY D. I. Exec: Mrs. A. B. Stockdale. (350)

Eugene, Ore., EUGENE D. I., 2860 S. Willamette. Exec: Ted Gamble. (600)

Eugene, Ore., NORTH END D. I., 3720 Dove Lane. Exec: A. B. Olsen. (430)

Florence. Ore., BHODODENDRON D. I. Exec: M. E. Ritter, Jr. (350)

Gearhart, Ore., SUNSET D. I., P. O. Box 517. Exec: Harold Wright, Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (430)

Grants Pass, Ore., REDWOOD D. I. Exec: Grants Pass Drive-In Ths., and Charles Mangel, Rogus Th. (500)

Hermiston, Ore., GROVE D. I. Exec: L. A. Moore, Oasis Th. (432)

Hood River, Ore., TRAILS D. I. Exec: Jones Entr. (400)

John Day ,Ore., GRANT COUNTY D. I. Exec: Keerins and Clift. (300)

Junction City, Ore., VISTA D. I. Exec: Bill Thrall, and J. A. Clark, 1806 N.W. Kearney, Portland. (350)

LaGrande, Ore., LaGRANDE D. I. Exec: Jones Entr., and Western Amuse. (350)

Lebanon, Ore., MOTOR VUE D. I. Exec: Tadd Nelson. (440)

Lebanon, Ore., NU D. I. Exec: Western Amuse. (400)

Madras, Ore., K AND D D. I. Exec: K and D Ths., and J. A. Clark, 1806 N.W. Kearney, Portland 9. (300)

Medford, Ore., ROGUE D. I., Crater Lake Hwy. Exec: R. L. Lippert Ths. Ct., 1069 Market St., San Francisco, Cal. (436)

Medford, Ore., STARLITE D. I. Exec: R. L. Lippert Ths. Ct., 1069 Market St., San Francisco, Cal. (620)

Medford, Ore., VALLEY D. I. Exec: R. L. Lippert Ths. Ct., ,1609 Market St., San Francisco, Cal. (436)

Milton-Freewater, Ore., STARLITE D. I. Exec: M. C. and M. W. Bennett, and J. Clark, 1806 N.W. Kearney, Portland. (350)

Myrtle Creek, Ore., TRI-CITY D. I., Hwy. 99 So. Exec: Tri-City Drive In Ths., W. E. Love, and Oregon Co-Op., 831 N.W. 18th, Portland. (450)

Newberg, Ore., 99 W D. I. Exec: Ted Francis. (350)

Newport, Ore., YAQUINA D. I., Box 278. Exec: McKevett's, Inc. (398)

Oregon City ,Ore., OREGON CITY D. I., Rt. 1, Box 287. Exec: Richard Larson, Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (300)

Pendleton, Ore., PENDLETON MOTOR IN, Rt. 1. Box 638. Exec: John Matlock, and A. Adamson Ct., 1923 N.W. Kearney, Portland 9. (300)

Portland, Ore., AMPHITHEATRE D. I., 9727 N.E. Union Ave. Exec: Amphitheatres, Inc., and Oregon Ths. Co-Op., 831 N.W. 18th. (692)

Portland, Ore., BARBUR BLVD. D. I., S.W. Barbur Blvd. and 35th Ave. Exec: Bernard Galitzki, Oregon Ths., Co-Op., 831 N.W. 18th St. (550)

Portland, Ore., DIVISION ST. D. I., 16501 S.E. Division. Exec: Tommy Moyer, 909 N.W. 19th (9). (500)

Portland, Ore., 82ND ST. D. I., 9600 S.E. 82nd. Exec: Forman and Gamble, United Ths., Public Service Bldg. (820)

Portland, Ore., POWELL BLVD. D. I., 11040 S.E. Bush St. Exec: T. P. Moyer, 909 N.W. 19th. (600)

Portland, Ore., SANDY BLVD. D. I., 9345 N.E. Sandy Blvd. Exec: Forman Bros., Public Service Bldg. (890)

Portland, Ore., SUPER 99 D. I., Highway 99. Exec: Amphitheatres, Inc., and Oregon Co-Op., 831 N.W. 18th. (692)

Prineville, Ore., PATIO D. I. Exec: K and D Ths., and J. A. Clark, 1806 N.W. Kearney. (300)

Redmond, Ore., ODEM-MEDO D. I. Exec: Milton L. Odem, and Oregon Ths, Co-Op., 831 N.W. 18th, Portland. (300)

Reedsport, Ore., SHORELINE D. I., Highway 101. Exec: F. Earl Glatazar, Pacific Th. (310)

Roseburg, Ore., PINE MOTOR IN, Highway 99. Exec: Umpqua Amuse. Co., Eino Hammila, and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (485)

Roseburg, Ore., STARLITE D. I., Hwy 99. Exec: W. E. Love, Tri-City Drive-Ins, Inc., and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (1115)

Salem, Ore., SALEM D. I., Rt. 2, Box 347-K. Exec: Forman and Gamble, United Ths., Public Service Bldg., Portland. (578)

Salem, Ore., SOUTH SALEM D. I. Exec: Forman and Gamble, United Ths., Public Serv. Bldg., Portland. (400)

Sheridan, Ore., HIWAY D. I. Exec: J. H. Hibbert, Oregon Ths. Co-Op., 831 N.W. 18th Portland. (325)

Silverton, Ore., MOTOR-VUE D. I. Exec: Creek Corp., and Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (400)

Springfield, Ore., CASCADE D. I., P. O. Box 218. Exec: Western Amuse. Co. (491)

Springfield, Ore, MOTOR-VU D. I., P. O. Box 726. Exec: Rolin Kuhn, Oregon Ths. Co-Op., 831 N.W. 18th St., Portland (486)

Sutherlin, Ore., CLOVERLEAF D. I., Hwy. 99. Exec: Wood and Ulett Ths. (300)

Sweet Home, Ore., SANTIAM D. I., Rt. #1 Airport Rd. Exec: R. E. Douglas. (175)

The Dalles, Ore., DALLES D. I. Exec: John Danz, Sterling Th., Inc., Palomar Th. Bldg., Seattle 1, Wash. (391)

The Dalles, Ore., STARLITE D. I. Exec: E. T. Chambers, and J. A. Clark, 1806 N.W. Kearney, Portland. (350)

Tigard, Ore., FAMILY DRI-VIN D. I. Exec: Jesse Jones. (700)

Tillamook, Ore., TILL-A-VUE D. I. Exec: Dude Smith, 1332 N.E. 37th, Portland. (440)

Woodburn, Ore., DRIVE IN. Exec: L. L. Potter, Oregon Ths. Co-Op., 831 N.W. 18th, Portland. (350)

Washington

(NOTE: See also Seattle Territory)

Camas, Wash., AUTO-VUE D. I. Exec: George Stoller, Oregon Ths. Co-Op., 831 N.W. 18th, Portland, Ore. (350)

Longview, Wash., YOUR D. I., Box 899. Exec: John Danz, Sterling Ths., Inc., Palomar Th. Bldg., Seattle 1. (550)

Vancouver, Wash, HAZEL DELL D. I., Pacific Hwy. Exec: Broadway Ths., Inc., and A. Adamson Ct., 1923 N.W. Kearney St., Portland, Ore. (400)

Vancouver, Wash., RENFRO D. I. Exec: Broadway Ths., Inc., and A. Adamson Ct., 1923 N.W. Kearney, Portland, Ore. (485)

White Salmon, Wash., RODEO DRIVE IN. Exec: Gordon Prestebak. (230)

SAINT LOUIS TERRITORY

Illinois

(NOTE: See also Chicago, Des Moines and Indianapolis Territories)

Alton, Ill., STARLITE D. I., Rt. 140. Exec: Tom L. Bloomer, Ritz Th., Bellville. (485)

Anna, Ill., ANNA D. I., Box 145. Exec: Rodgers Th., 230 8th St., Cairo. (428)

Beardstown, Ill., STARLIGHT D. I., P. O. Box 58. Exec: Pirtle Ct., Box 271, Jerseyville. (350)

Belleville, Ill., SKYVIEW D. I. Exec: Tom L. Bloomer, Ritz Th. (900 and 200 Seats)

Benton, Ill., MIDWAY D. I. Exec: Sullivan and Strauss. (450)

Breese, Ill., AVON D. I. Exec: Bernard Temborious. (265)

Cairo, Ill., 51 D. I. Exec: H. Eichhorn, Roxy Th., Mounds. (425)

Camargo, Ill., OKAW D. I. Exec: George B. Barber, Strand Th., Tuscola. (300)

Carbondale, Ill., WARING AUTO D. I., Rt. 13. Exec: W. E. Waring, Jr., Ritz Th., Cobden. (500)

Carlinville, Ill., DIANE D. I., Box 329. Exec: Mrs. Frieda Paul, and Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (280)

Carlyle, Ill., CAR-BREEZE D. I. Exec: Dominic Frisina and Charles Beninati, Ritz Th. (200)

Carmi, Ill., 460 D. I., U. S. 460 East of Carmi. Exec: D. Tolliver. (500)

Casey, Ill., K-B D. I. Exec: Leroy Baston, Box 134. (300)

Centralia, Ill., CENTRALIA D. I., Rt. 16, Box 47. Exec: Bloomer Amuse., Ritz Th., Belleville. (500 and 200 Seats)

Charleston, Ill., CHARLESTON D. I. (Formerly E-I). Exec: Rino Bianchi, and Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (420)

East St. Louis, Ill., E. ST. LOUIS D. I., R. R. 50, Rt. 159, French Village. Exec: I. Wienshienk, Grand Th., Alton. (567)

East St. Louis, Ill., MOUNDS D. I. (Collinsville). Exec: Millard Komm, Komm Ct., 120 Gay Ave., Clayton 24, Mo. (700)

East St. Louis, Ill., SHOP CITY D. I., 51st and St. Clair. Exec: Millard Komm, Komm Ct., 120 Gay Ave., Clayton 24, Mo. (700)

Effingham, Ill., RUSTIC STARLITE D. I., Route 40. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Fairfield, Ill., FAIRFIELD D. I. Exec: Louis LaGreco. (350)

Farina, Ill., 37 D. I. Exec: Woods and McInerny. (250)

Flora, Ill., RENDEZVOUS D. I., Rt. 45, P. O. Box 92. Exec: Harry Jones, Valley Drive-In Corp. (400)

Harrisburg, Ill., HARRISBURG D .I., R.F.D. 3. Exec: Fred Cline. (465)

Harrisburg, Ill., STARLITE D. I., Box 432. Exec: O. L. Turner, Jr., Turner-Farrar Ths., Orpheum Th. (550)

Herrin, Ill., EGYPTIAN D. I., Box 248, Rt. 148, 4 C Lane. Exec: Wayne L. Smith. (400)

Herrin, Ill., MARLOW'S D. I., Route 148. Exec: John Marlow, Marlow's Th. (1000)

Highland, Ill., AIR PARK D. I., Hwy. 40. Exec: Robert L. Costilow. (200)

Jacksonville, Ill., 67 D. I., P. O. Box 170. Exec: H. Busey, P. O. Box 170. (350)

Litchfield, Ill., SKYVIEW D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Mattoon, Ill, SKYWAY D. I. Exec: Mattoon Th. Co., controlled by Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (536)

McLeansboro, Ill., SUNSET D. I. Exec: C. F. Downen. (250)

Metropolis, Ill., AUTO-VUE D. I. Exec: Ed Clark, Massac Th. (391)

Metropolis, Ill., EL CAPITAN D. I., Route 25. Exec: Ed Clark, Massac Th. (500)

Mount Olive, Ill., SUNSET D. I., Near U. S. 66 and Ill. 138. Exec: Louis Odorizzi. (250)

Mount Vernon, Ill., MT. VERNON D. I., Rt. 48. Exec: Frank Glenn, Tamaroa. (500)

Mount Vernon, Ill., STARLAND D. I. Exec: Frank Glenn, Tamaroa. (700)

Newton, Ill., FAIRVIEW D. I., Rt. 33. Exec: D. B. Simmons, R.R. #2. (250)

Olney, Ill., OLNEY D. I., Hwy. 50. Exec: Raymond Worthery. (300)

Pana, Ill., TANNER D. I. Exec: Herman Tanner, Liberty Th., Vandalia. (400)

Paris, Ill., RONNIE'S D. I. Exec: Leon Jarodsky and E. L. Staup. (500)

Quincy, Ill., GEM CITY D. I., So. 36th bet. Maine and State Sts., P. O. Box 635. Exec: Robert Ellery, Gem City Drive-In Corp. (500)

Robinson, Ill., GORDON D. I., Gordon Junction. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (450)

Salem, Ill., CLUSTER D. I., Hwy. 37. Exec: Loren Cluster, Lyric Th. (600)

Sandoval, Ill., HOLLYWOOD D. I., Hwy. 50. Exec: Rollen Robinson. (300)

Shelbyville, Ill., KAY D. I. Exec: M. Stewartson. (350)

Springfield, Ill., 66 D. I. Exec: Kerasotes Ths., Kerasotes Th. Bldg., 104 N. 6th St., Springfield. (1200)

Springfield, Ill., SPRINGFIELD D. I., Hwys. 66 and 29. Exec: Frisina Amuse. Co., Roxy Th. Bldg. (1200 and 150 Seats)

Steeleville, Ill., ARROW D. I. Exec: Stuart Morgenstern, and A. R. Dietz, 3142 Olive St., St. Louis 3, Mo. (400)

Sullivan, Ill., SULLIVAN D. I., Rt. 32. Exec: Lee Norton. (300)

Summer Hill, Ill., CLARK D. I. Exec: Clark and Russell Armentrout, Clark Th., Louisiana, Mo. (350)

Tamaroa, Ill., MELODY D. I., Hwy. 51. Exec: Frank Glenn. (300)

Taylorville, Ill., FRISINA D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield. (400)

Thayer, Ill., ROUTE #54 D. I. (Formerly Route 4), Rt. 4. Exec: William Swift, Gaiety Th., Virden. (300 and 100 Seats)

Tuscola, Ill., TUSCOLA D. I. Exec: George Barber, Strand Th. (350)

Vandalia, Ill., TANNER D. I., P. O. Box 172. Exec: Herman Tanner, Liberty Th. (400)

Winchester, Ill., GREEN D. I. (Alsey-Winchester), Rt. 106. Exec: Tom Danner, and P. E. Stehman. (200).

Woodriver, Ill., ALTWOOD D. I. (East Alton), Old St. Louis Rd. Exec: Dubinsky Bros., Box 1986, 201 Walton Bldg., Lincoln, Neb. (570)

Indiana

(NOTE: See also Chicago, Cincinnati, and Indianapolis Territories)

Mount Vernon, Ind., MT. VERNON D. I. Exec: Joseph Nickolick. (378)

Iowa

(NOTE: See also Des Moines and Omaha Territories)

Keokuk, Ia., SKYLARK D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (425)

Kentucky

(NOTE: See also Atlanta, Cincinnati, Indianapolis and Memphis Territories)

Future City, Ky., BEL-AIR D. I. Exec: M. E. Renfrow, Box 762, Paducah. (400)

Kevil, Ky., PARK D. I., Route 1. Exec: Forrest O. Shelby, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis, Mo. (225)

LaCenter, Ky., SUPERSCOPE D. I. Exec: Mr. Smith. (500 Under Construction)

Marion, Ky., MARION D. I. Exec: Dr. J. J. Rosenthal, and Pete Dawson, 320 W. Jefferson St., Louisville. (280)

Murray, Ky., MURRAY D. I. Exec: Sykes Bros. (300)

Murray, Ky., 95 D. I. Exec: Enido Nucci, Box 567. (500)

Paducah, Ky., AIRPORT D. I. Exec: Doby B. Stout, Box 471, Cairo, Ill. (400)

Paducah, Ky., PADUCAH D. I., Lone Oak Rd., P. O. Box 510. Exec: Columbia Amuse. Co., Arcade Th. Bldg. (500 and 100 Seats)

Paducah, Ky, SOUTH TWIN D. I. Exec: Columbia Amuse. Co., Arcade Th. Bldg. (Under Construction)

Paducah, Ky., STARLITE D. I., 2917 New Benton Rd. Exec: Lake Edwards. (381)

Paducah ,Ky., SUNSET D. I. Exec: H. R. Timmons. (500)

Missouri

(NOTE: See also Kansas City and Memphis Territories)

Affton, Mo., RONNIE'S D. I. (St. Louis), Baptist Ch. La. and Lindbergh Drive. Exec: Lester Kropp, Wehrenberg Ths., 2735 Cherokee St., St. Louis. (984)

Arcadia, Mo., KILLARNEY D. I. (Pilot Knob). Exec: William Basden, Pilot Knob. (262)

Ava, Mo., HIGHWAY 14 D. I. Exec: L. H. Pettit, Avalon Th. (100)

Ava, Mo., PETTIT'S D. I. Exec: L. H. Pettit, Avalon Th. (200)

Bridgeton, Mo., SKYLINE D. I. Exec: Ray Parker, 14 York Hills Dr., Brentwood 17. (650 and 20 Seats)

Cape Girardeau, Mo., STAR VUE D. I. Exec: Howard Bates, and Carl Miller. (750)

Centralia, Mo., BEBE D. I. (Springfield). Exec: E. Bebemeyer. (250)

Chaffee, Mo., HOME OF THE STARS D. I. Exec: R. H. Capshaw, and A. R. Dietz, 3142 Olive St., St. Louis 3. (350)

Chaffee, Mo., MONTGOMERY D. I. (Blomeyer). Exec: Mrs. Bernice Montgomery, Horstman Th. (200)

Charleston, Mo., CHARLESTON D. I. Exec: D. B. Stout, Box 471, Cairo, Ill. (200)

Columbia, Mo., BROADWAY D. I., 1100 Block Broadway. Exec: Commonwealth Amuse. Co., 215 W. 18th, Kansas City. (400)

Columbia, Mo., PARKADE D. I. Exec: Herbert Jeans. (400)

Cracker, Mo., OZARK D. I. Exec: David Forbes. (100)

Cuba, Mo., 19 D. I. Exec: A. P. Meier. (160)

DeSoto, Mo., SKYVIEW D. I. Exec: William A. Collins, Collins Th. (300)

Des Peres, Mo., MANCHESTER D. I., Hwy. 50. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass., and Howard Spress, Mgr., Box 154, St. Anns Village. (500)

Dexter, Mo., FAMILY D. I., P. O. Box 264. Exec: Mrs. V. Goodwin, P. O. Box 4572, Bloomfield. (488)

Dexter, Mo., MIDWAY D. I. Exec: Norvin Garner. (265)

Doniphan, Mo., STADIUM D. I., 101 Young St. Exec: Mrs. Ethel Chilton. (138)

East Prairie, Mo., EAST PRAIRIE D. I., Box 268. Exec: Earl Ferrell, Geraldine Twitty, and A. R. Dietz ,3142 Olive St., St. Louis 3. (350)

Farmington, Mo., CORRAL D. I. Exec: Edwards-Plumlee Ct., Ritz Th. (400)

Fredericktown, Mo., HI-Y D. I. Exec: L. A. Mercier, Mercier Th. (250)

Fulton, Mo., FULTON D. I. Exec: Don Fike. (386)

Gainesville, Mo., SUNSET D. I. Exec: William Rebschlaeger. (200)

Garwood, Mo., 21 D. I. (Ellington). Exec: Harold Larkin and Claude Davis, Strand Th., Ellington. (210)

Hannibal, Mo., SKY-HI D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (350)

Houston, Mo., SUNSET D. I. Exec: R. D. Fisher. (350)

Illmo, Mo., CAPE D. I. (Cape Girardeau), U. S. 61, Illmo P. O. Exec: H. O. Bates, Cape Drive-In Ths., Inc., Cape Girardeau. (500)

Jackson, Mo., PARKVIEW D. I., Hwy. 61 N. Exec: J. C. Crites, Harry McDowell, and A. R. Dietz, 3142 Olive St., St. Louis 3. (325)

Lebanon, Mo., MOONLITE D. I., Route 32. Exec: Clifford Hough. (250 and 100 Seats)

Lebanon, Mo., SKY-HI D. I., P. O. Box 573. Exec: Earl Hargis. (200)

Malden, Mo., AUTOVUE D. I. Exec: G. D. Haskins and C. V. Harris. (250)

Mansfield, Mo., OWEN D. I. Exec: Harold Owen. (100)

Marshfield, Mo., SKYLINE D. I. Exec: Lloyd E. Schmidt. (150)

Memphis, Mo., AIRWAY D. I. Exec: C. W. Locke. (288)

Mexico, Mo., LITTLE DIXIE D. I. Exec: Frisina Amuse. Co., Roxy Th. Bldg., Springfield, Ill. (450)

Mountain Grove, Mo., 60 D. I. Exec: D. W. Davis, Jr. (300)

Overland, Mo., HOLIDAY D. I., 9900 Page Blvd. Exec: Jablonow-Komm Ct., 120 Gay St., Clayton 24. (1050)

Paris, Mo., MAJOR D. I. Exec: Mrs. Edith Major. (200)

Perryville, Mo., HILLTOP D. I., Rt. 25. Exec: A. C. Mercier, Mercier Th. (285)

Pevely, Mo., 61 D. I. Exec: H. P. Hartstein, 7166 Hazlewood, University City 14. (700)

Piedmont, Mo., PINE HILL D. I., 105 W. Elm. Exec: A. B. Jefferis. (200)

Poplar Bluff, Mo., POPLAR BLUFF D. I., Rt. 67, P. O. Box 395. Exec: Rodgers Ct., 230 Eighth St., Cairo, Ill. (580)

Potosi, Mo., STARLITE D. I., Rt. 21. Exec: Harry Blount, Box 728. (300)

Rolla, Mo., ROLLA D. I., U. S. No. 66. Exec: R. E. Carney, Uptown Th. (400)

Saint Ann's Village, Mo., AIRWAY D. I., 10900 St. Charles Rock Rd. Exec: Phil Smith Ct., 82 Newberry St., Boston, Mass. (1000)

Saint Ann's Village, Mo., ST. ANN D. I., 10425 St. Charles Rock Rd. Exec: Edward Arthur, Fanchon and Marco, 527 N. Grand, St. Louis. (1000)

Saint Charles, Mo., ST. CHARLES D. I. Exec: R. H. Spencer, St. Charles Drive-In Th. Corp. (600)

Saint Louis, Mo., BROADWAY D. I., 4300 S. Broadway. Exec: A. R. Parker, 14 York Hills Dr., Brentwood 17. (800)

Saint Louis Co., Mo., NORTH D. I., Hwy. 99 and St. Cyr Rd. Exec: Kaimann Booking Office, 4102a W. Florissant, St. Louis. (1000 and 150 Seats)

Saint Louis Co., Mo., 66 PARK IN, Hwy. 66 and Sappington Rd. Exec: Lester Kropp, Wehrenberg Ths., 2735 Cherokee St. (792)

Saint Louis Co., Mo., SOUTH TWIN D. I., LeMay Ferry Rd. Exec: Lester Kropp, Wehrenberg Ths., 2735 Cherokee St. (750)

Salem, Mo., STARLITE D. I. Exec: Hugh Graham. (248)

Sikeston, Mo., DELTA D. I., Box 376. Exec: Miss G. Twitty, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis. (350)

Sikeston, Mo., SIKESTON D. I. Exec: Mrs. O. W. McCutchen, Ritz Th., Blytheville, Ark. (450)

Sullivan, Mo., GRANDE D. I., Hwy. 66. Exec: A. Schwartz, Rolla. (300)

Vandalia, Mo., VANDALIA D. I. Exec: Dr. D. O. Squires, and A. R. Dietz, 3142 Olive St., St. Louis 3. (300)

Warrenton, Mo., MOTO VU D. I. Exec: W. T. Zimmerman, and A. R. Dietz, Co-operative Ths., 3142 Olive St., St. Louis 3. (250)

Washington, Mo., SUNSET D. I., Rt. 47. Exec: Commonwealth Ths., Inc., 215 W. 18th St., Kansas City, and L. J. Williams. (240)

Wayland, Mo., STARLITE D. I. (Kahoka), Hwy. 136. Exec: William Schearer. (100)

Waynesville, Mo., WOODLANE D. I. Exec: Commonwealth Amuse. Co., 215 W. 18th St., Kansas City. (280)

West Plains, Mo., 63 D. I. Exec: Dean W. Davis, Jr. (350)

West Quincy, Mo., QUNICY D. I. Exec: Ray Parker, 14 York Hills Dr., Brentwood 17. (500)

Willow Springs, Mo., WILLOW D. I. Exec: R. D. Fisher, Box 513. (184)

Winona, Mo., WINONA D. I. Exec: C. L. Smalley, Ritz Th., Van Buren. (190)

SALT LAKE CITY TERRITORY

Colorado

(NOTE: See also Denver Territory)

Cortez, Colo., ARROYO D. I. Exec: Mr. and Mrs. Torenzio Gai. (300)

Cortez, Colo., TSAYA D. I. Exec: Raymond C. Taylor, Ralph Tanner, and George Armstrong. (300)

Dove Creek, Colo., AUTO VU D. I. Exec: Neil P. Bolt, and George Armstrong. (130)

Idaho

(NOTE: See also Seattle Territory)

Blackfoot, Ida., MOTOR-VU D. I. Exec: Albert Barrott. (490)

Boise, Ida., BOISE D. I., West of City, P. O. Box 2558. Exec: J. W. Naylor, and Milton Fry. (350)

Boise, Ida., BROADWAY D. I. Exec: J. W. Naylor, Boise Drive-In Th. (400)

Buhl, Ida., MOON-GLO D. I. Exec: C. C. Voeller. (280)

Burley, Ida., AL FRESCO D. I., 2 Mi. W. of Burley. Exec: I. H. Harris, Harris-Voeller Ct. (350)

Caldwell, Ida., MOTOR-VU D. I., P. O. Box 38. Exec: Frank Judd. (300)

Caldwell, Ida., TERRACE D. I. Exec: Virgil Odell, Box 428, Emmett. (300)

Driggs, Ida., SPUD D. I. Exec: S. A. Woods. (200)

Emmett, Ida., EMMETT D. I. Exec: Virgil Odell, Box 428. (220)

Idaho Falls, Ida., MOTOR-VU D. I., Yellowstone Hwy. 191. Exec: J. H. Moran, Laurel, Mont. (500)

Idaho Falls, Ida., SKY-VU D. I., 2680 E. Lincoln St. Exec: Ralph Prestwich. (450)

Jerome, Ida., JEROME AUTO D. I. Exec: Austin Kennedy. (210)

Meridian, Ida., FAMILY D. I., Hwy. 30. Exec: Milton Fry, and J. W. Naylor, Boise Drive-In, Boise. (350)

Montpelier, Ida., MOTOR-VU D. I. Exec: Wilson Dean and Charles Woods, and Russ Dauterman, 1295 2nd Ave., Salt Lake City 5, Utah. (300)

Mountain Home, Ida., CANYON D. I. Exec: A. J. Devlin. (300)

Nampa, Ida., AMITY D. I. Exec: Milton Fry and J. W. Naylor, Boise Drive-In, Boise. (500)

Nampa, Ida., NAMPA-CALDWELL D. I. Exec: Voris R. Botkin, Northwest Ths., Inc., Meridian. (300)

Parma, Ida., PARMA MOTOR-VU D. I. Exec: William Dobbs. (275)

Payette, Ida., PAY-ONT D. I. Exec: Rex Voeller, Nyssa, Ore. (300)

Pocatello, Ida., STAR-LITE D. I. Exec: T. M. Morris. (500)

Pocatello, Ida., SUNSET D. I., Hwy. 91. Exec: T. M. Morris. (350)

Preston, Ida., SKY VU D. I. Exec: Horace E. Hayes. (376)

Rexburg, Ida., TETON D. I. Exec: K. O. Lloyd. (350)

Salmon, Ida., SUNSET D. I., Box 727. Exec: William H. Walker, and Miles and Bert Schneider. (200)

Soda Springs, Ida., DAWN-A-VU D. I. Exec: Donald Mendenhall. (300)

Twin Falls, Ida., GRAND VU D. I. Exec: Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (390)

Twin Falls, Ida., TWIN FALLS MOTOR-VU D. I., Kimberly Rd., P. O. Box 728. Exec: Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City, Utah. (500)

Wallace (Osburn Area), Ida., SILVER STAR D. I. (Formerly Kelton), 121 Bank St. Exec: Simons Amuse. Co., Wilma Bldg., Missoula, Mont. (300)

Montana

Billings, Mont., CITY-VU D. I., 515 Avenue E. Exec: Steve Trenka. (500)

Billings, Mont., MOTOR-VU D. I. Exec: R. V. McIntyre, and Charles P. Smith, 2202 Sixth St., West. (600)

Billings, Mont., SAGE D. I., Box 231 A, Route #2. Exec: Allen Klindt. (500)

Bozeman, Mont., STAR-LITE D. I. Exec: E. B. Pegram, (350)

Bridger, Mont., HILLSIDE D. I. Exec: George DeRudder. (250)

Butte, Mont., BRIDGEWAY D. I. Exec: Clarence Golder, Great Falls. (500)

Butte, Mont., CREST D. I. Exec: R. F. Wilmert, 2201 Ottowa St. (300)

Butte, Mont., MOTOR VU D. I. Exec: R. F. Wilmert, 2201 Ottowa St.

Columbia Falls, Mont., MIDWAY D. I. Exec: A. E. Massman and Walter C. Thompson. (200)

Conrad, Mont., STAR D. I., Hwy. 91. Exec: Ray E. Yeager. (300)

Forsyth, Mont., STARLITE D. I. Exec: Myron Bean. (276)

Glasgow, Mont., WEST D. I. Exec: E. H. Davison. (300)

Glendive, Mont., SKYLARK D. I. Exec: Lewis Moore. (300)

Glendive, Mont., STAR-LIT D. I., P. O. Box 320. Exec: Bob and Bill Johnson. (250)

Great Falls, Mont., FALLS MOTOR-VU D. I. Exec: George Buzzas, and L. A. Donahue. (695)

Great Falls, Mont., TWILITE D. I. Exec: George Buzzas, and L. A. Donahue. (500)

Hamilton, Mont., STARLITE D. I. Exec: Floyd Bailey. (225)

Hardin, Mont., SKY-VU D. I. Exec: Conrad Seader. (326)

Havre, Mont., SUNSET D. I. Exec: Emil Don Tigney, and Clarence Golder. (500)

Helena, Mont., SKY-HI D. I. Exec: Don Dedrickson, and A. M. Jolley, 206 Marwood Dr., Salt Lake City, Utah. (500)

Helena, Mont., SUNSET D. I. Exec: E. R. Munger, Box 771. (500)

Kalispell, Mont., SUNDOWN D. I. Exec: Carl Anderson. (280)

Lewiston, Mont., WESTERNAIRE D. I., P. O. Box 211. Exec: Frank Machler. (250)

Livingston, Mont., TWILIGHT D. I., 310 E. Park. Exec: Ed Boehm. (200)

Miles City, Mont., SUNSET D. I. Exec: Jack Holmes. (440)

Missoula, Mont., MOUNTAIN VU D. I. Exec: E. K. Taylor, 112 Mary Ave. (400)

Missoula, Mont., STATE D. I. Exec: William Fowers. (500)

Polson, Mont., WIKI WOW D. I. Exec: Al Parker, and Bill Shell. (250)

Poplar, Mont., CHIEF D. I. Exec: Chris Gorder. (178)

Roundup, Mont., FORTRESS D. I., Hwy. 6. Exec: Lawrence Sealey and Harry Kowalczyk. (120)

Scobey, Mont., RIV-R-VU D. I. Exec: C. H. Halverson and Stanton Danelson. (200)

Shelby, Mont., PRAIRIE D. I. Exec: Tom Grady. (210)

Sidney, Mont., MOTOR-VU D. I. Exec: Jack Suckstorff. (286)

Terry, Mont., PRAIRIE D. I. Exec: H. B. Lee. (160)

Whitefish, Mont., BAY POINT D. I. Exec: Ed McKenzie. (200)

Wolf Point, Mont., SUNDOWN D. I. Exec: C. J. Stevenson. (300)

Nevada

(NOTE: See also Los Angeles and San Francisco Territories)

Elko, Nev., ELKO MOTOR VU D. I. Exec: E. Lee Liston, D. F. Cameron, and Robert Warmbrodt. (350)

Ely, Nev., MOTOR VU D. I. Exec: Motor Vu Th. Co., % Clyde A. Blasius, Associated Amuse., 351 S. State, Salt Lake City, Utah. (300)

Fallon, Nev., ROPER D. I. Exec: W. W. Whittaker. (350)

New Mexico

(NOTE: See also Dallas and Denver Territories)

Shiprock, N. M., CHIEF D. I. Exec: George R. Armstrong, Cortez, Colo. (250)

Utah

American Fork, U., STARLITE D. I. Exec: Spencer Buckinshaw, Midvale, and Leon Cartright. (500)

Bountiful, U., MOTOR-VIEW D. I., Hwy. 91. Exec: J. N. Bills. (580)

Brigham City, U., AUTO-VU D. I. Exec: George Craghead. (185)

Cedar City, U., HYLAND D. I. Exec: Glen Yergensen. (250)

Dragerton, U., STARLITE D. I. Exec: Bernard W. Cline and Philip Turner. (250)

Huntington, U., VALI D. I. Exec: Zen Jensen. (200)

Layton, U., DAVIS D. I., 353 W. 325 So. Lynnwood Dr. Exec: P. A. Speckart. (400)

Layton, U., LAYTON D. I. Exec: N. Pratt Smith. (290)

Logan, U., CACHE D. I., P. O. Box 476. Exec: Harris-Voeller Ths., Burley, Ida. (350)

Logan, U., LOGAN D. I., Hwy. 91, P. O. Box 476. Exec: Harris-Voeller Ths., Burley, Ida. (350)

Midvale, U., UTE D. I. Exec: Horace and Spencer Burkinshaw. (500)

Moab, U., GRAND VU D. I., Box 103. Exec: Howard Lance. (200)

Moab, U., HILL TOP D. I. Exec: Jack McCluskey, and Jack Crowson. (290)

Monticello, U., NO VU D. I. Exec: E. P. Corbin. (150)

Ogden, U., MT. OGDEN D. I., 3700 Wall Ave. Exec: Stephens Bros., 1220 Binford St. (500)

Ogden, U., STARLITE D. I., 1876 Washington Blvd, P. O. Box 950. Exec: Cliff Peterson. (350)

Ogden, U., WEBER MOTOR VU D. I., Rt. 4. Exec: Associated Amuse. Co., and Clyde Blasius, Westates, Inc., 351 S. State, Salt Lake City. (726)

Orem, U., GENEVA D. I., Hwy. 91. Exec: Utah Drive-In Th. Co., 1638 W. Washington Blvd., Los Angeles, Cal., and Robert H. Benton. (600)

Orem, U., TIMPANOGOS CINEMOTOR D. I. Exec: V. A. Gilhool, 140 S. 2nd East, Salt Lake City. (500)

Price, U., SUNSET D. I. Exec: Billy R. Webb. (260)

Provo, U., PIONEER MOTOR VU D. I., 1255 S. Springfield Rd. Exec: Marvin R. Cox. (500)

Richfield, U., RICH D. I. Exec: Mr. and Mrs. Van Anderson. (300)

Roy, U., RIVERDALE D. I. Exec: Darrell Tullis. (554)

Saint George, U., DIXIE D. I. Exec: R. M. Reber. (240)

Salt Lake City, U., AIRPORT D. I. Exec: Utah Drive-In Th. Corp., 1638 W. Washington Blvd., Los Angeles, Cal., and Robert H. Benton. (350)

Salt Lake City, U., AUTORIUM D. I., 2nd West and 21st So. Exec: Utah Drive-In Th Corp., 1638 W. Washington Blvd., Los Angeles, Cal., and Robert H. Benton. (655)

Salt Lake City, U., HYLAND D. I., 3670 Highland Dr. Exec: Utah Drive-In Th. Corp., 1638 W. Washington Blvd., Los Angeles, Cal., and Robert H. Benton. (845)

Salt Lake City, U., MOTOR-VU D. I., 3500 E. 33rd So. Exec: Erick Peterson (700)

Salt Lake City, U., OAK HILLS D. I. Exec: D. K. Edwards, Joseph Lawrence Ths., 310 Utah Oil Bldg. (600)

Salt Lake City, U., PARK-VU D. I. Exec: Ellis Everell, 3821 S. 11th East. (750)

Salt Lake City, U., REDWOOD D. I. Exec: Utah Drive-In Th. Corp., 1638 W. Washington Blvd., Los Angeles, Cal., and Robert H. Benton. (750)

Salt Lake City, U., WOODLAND D. I. Exec: E. N. Woodland, 4005 S. 7th East. (625)

Springdale, U., ZIONVILLE D. I. Exec: Carl DeVon Hardy. (20 and 50 Seats—Nontheatrical)

Springville, U., ART CITY CINEMOTOR D. I. Exec: V. A. Gilhool, 140 S. 2nd E., Salt Lake City. (500)

Tooele, U., MOTOR-VU D. I. Exec: Chester L. Price. (278)

Tremonton, U., MOONLITE D. I. Exec: L. W. Dunn. (292)

Vernal, U., STARLIGHT D. I. Exec: Shiner Brothers. (300)

Wyoming

(NOTE: See also Denver Territory)

Evanston, Wyo., RIVERSIDE MOTOR-VU D. I. Exec: Russ Dauterman, 1295 2nd Ave., Salt Lake City, U. (300)

SAN FRANCISCO TERRITORY

California

(NOTE: See also Los Angeles Territory)

Alameda, Cal., ALAMEDA D. I., 2145 Webster St. Exec: Nasser Bros., 25 Taylor St., San Francisco. (860)

Alameda, Cal., ISLAND AUTO MOVIES, 791 Thaw Way. Exec: J. and W. Gannon and Gordon Allen, 1312 Tennyson Rd., Hayward. (880)

Alton, Cal., HUMBOLDT D. I. Exec: Walter Bell, Maribel Ths., Inc., 3106 Lowell St., Eureka. (530)

Antioch, Cal., BRIDGEHEAD D. I. Exec: Stamm Ths., Inc., El Campanil Th., 602 2nd St. (450)

Armona, Cal., KINGS D. I. Exec: George Peterson. (300)

Auburn, Cal., AUBURN D. I., 1139 High St. Exec: Harvey Smith, and Jesse Levin, and General Theatrical. (492)

Belmont, Cal., STARLITE D. I., 300 Harbor Blvd. Exec: David Bolton, 168 Golden Gate, San Francisco. (650)

Boulder Creek, Cal., STARVIEW D. I., Big Basin Hwy. Exec: John Forde, and General Theatrical Co., 25 Taylor St., San Francisco. (350)

Carmichael, Cal., WESTERNER D. I., Box 4001, Manzanita. Exec: Robert Gingerich. (400)

Ceres, Cal., CERES D. I., P. O. Box 35. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (344)

Chico, Cal., STARLITE D. I., P. O. Box 552. Exec: T. and D., Jr. Ents., Inc., 172 Golden Gate, San Francisco. (600)

Clearlake Highlands, Cal., LAKE D. I., P. O. Box 746. Exec: Maurice Bouldin. (314)

Coalinga, Cal, COALINGA D. I., Box 141. Exec: Harris and Coughbert, and John C. Bowles, P. O. Box 589, Burlingame. (375)

Colma, Cal., EL RANCHO D. I. (San Francisco), RR #1, Box 288D. Exec: Juniper-Serra Th., Inc., Redwood-Lippert Ths., 1069 Market, San Francisco. (850)

Concord, Cal., CONTRA COSTA MOTOR IN (Sherman Field), 2040 Contra Costa Hwy. Exec: Concord Th. Co., Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Cotati, Cal., REDWOOD D. I., P. O. Box 206. Exec: Jess Levine and Paul Zenovich, and General Theatrical Co., 25 Taylor St., San Francisco. (552)

Crescent City, Cal., OCEAN D. I., P. O. Box 202, Medford, Ore. Exec: Arthur F. Grenfel, and Gus Fowler. (440)

Daly City, Cal., MISSION D. I. (San Francisco), 500 Guttenberg. Exec: Stanley Lefcourt. (1000)

Delano, Cal., DEL-MAC D. I., Box 905. Exec: Panero Th. Co., Room 700-A, 25 Taylor St., San Francisco. (380)

Del Paso Heights, Cal., BELL D. I. (Sacramento). 1429 Bell Ave. Exec: Clarence Wasserman, and F. H. Enwald, Web Amuse. Corp. (650)

Dinuba, Cal., MIDWAY D. I. Exec: Roy Cooper Ths. (490)

Dos Palos, Cal., DOS PALOS D. I., P. O. Box 595. Exec: Regas-Hales, Inc., and Robert Clark, 3108 Monterey, San Mateo. (361)

El Cerrito, Cal., EL CERRITO MOTOR MOVIES D. I., 6600 Fairmont. Exec: El Cerrito Drive-In Ths., Inc., Blumenfeld Ths., 70 Eddy, San Francisco. (900)

Eureka, Cal., BEL-AIR D. I., 3106 Lowell St. Exec: Walter Bell, Maribel Ths., Inc., 3106 Lowell St. (500)

Eureka, Cal., MIDWAY D. I., % State Th. Exec: Redwood Ths., Inc., Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Fairfield, Cal., SOLANO D. I., P. O. Box 357. Exec: Homer-Tegtmeier, P. O. Box 848, San Francisco. (404)

Firebaugh, Cal., FIREBAUGH D. I., P. O. Box 366. Exec: C. S. Chestnutt, and John C. Bowles, 723 Griffith Way, Fresno. (300)

Five Points, Cal., FIVE POINTS D. I. Exec: A. O. Ruff, and John C. Bowles, 723 Griffith Way, Fresno. (350)

Fresno, Cal., MOON-GLO D. I., % Ed Stokes, 3818 N. Wilson. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (800)

Fresno, Cal., STARLITE D. I., % Ed Stokes, 3818 N. Wilson. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (1250)

Fresno, Cal., SUNSET D. I., % Ed Stokes, 3818 N. Wilson. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Garberville, Cal., GARBERVILLE D. I., % Garberville Th. Exec: B. B. Byard. (300)

Gilroy, Cal., HECKER PASS D. I., P. O. Box 180. Exec: Hecker Pass Drive-In Co., Inc., and General Theatrical Co., 25 Taylor St., San Francisco. (490)

Hayward, Cal., MOTOR MOVIES D. I., 1312 Tennyson Rd. Exec: Allen and Heller. (600)

Hollister, Cal., MOONLITE D. I., Rt. 1, Box 64. Exec: Hans Severson, and Robert Clark, 3108 Monterey St., San Mateo. (460)

Keyes, Cal., STARLITE D. I. Exec: Stanislaus Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (600)

Lodi, Cal., TOKAY D. I., Box 187. Exec: United California Ths., 172 Golden Gate, San Francisco. (550)

Los Molinos, Cal., SUNDOWN D. I. Exec: Larry Tyler, and George Archibald, Arch Buying and Booking Serv., 988 Market St., San Francisco. (200)

Madera, Cal., EL RIO D. I. Exec: H. Preciado, % Rex Th. (384)

Malaga, Cal., MOTOR-IN, % Ed Stokes, 318 N. Wilson. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (916)

Mendota, Cal., MARY'S D. I., Box 387. Exec: Anthony Bou, and William Greenbaum, Film Booking Offices of Northern Cal., 988 Market, San Francisco. (400)

Merced, Cal., STARLITE D. I., Gerard Ave. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (680)

Merced, Cal., TIOGA D. I., Box 1472. Exec: United California Ths., Inc., 172 Golden Gate, San Francisco. (480)

Mooney Park, Cal., MOTOR IN D. I. Exec: Exec: Affiliated-Lippert Ths., 1069 Market, San Francisco. (485)

Monterey, Cal., PARK D. I., Encino and Fairground. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (466)

Mountain View, Cal., MONTE VISTA D. I., El Camino and Grant Rd. Exec: Sunnymount Ths., and Blumenfeld Ths., 70 Eddy St., San Francisco. (700)

Napa, Cal., KAYVON D. I., P. O. Box 597. Exec: Blumenfeld Ths., 70 Eddy St., San Francisco. (400)

North Sacramento, Cal., STARLITE D. I., 2200 14th St. Exec: Freeway Th. Co., Inc., and Blumenfeld Ths., 70 Eddy St., San Francisco. (920)

Oakland, Cal., AIRPORT AUTO MOVIES, 131 Jones Ave. Exec: Frank Enea Lucido, 361 Lighthouse Ave., Monterey. (900)

Oroville, Cal., MESA D. I., P. O. Box 1310. Exec: United California Ths., 172 Golden Gate, San Francisco. (460)

Palo Alto, Cal., PALO ALTO D. I., Bayshore Hwy. and Amarillo Rd. Exec: United California Ths., Inc., 172 Golden Gate, San Francisco. (550)

Paradise, Cal., PINE BREEZE D. I. Exec: El Rey Th. Co., and United California Ths., Inc., 172 Golden Gate, San Francisco. (363)

Paso Robles, Cal., OAKS D. I., Box 116. Exec: Al Stanford. (325)

Pittsburg, Cal., AUTO MOVIES, P. O. Box 1271. Exec: Frank Enea Lucido, 361 Lighthouse Ave., Monterey. (550)

Placerville, Cal., SE-RANCHO D. I. Exec: Harvey Smith and Jess Levin, and General Theatrical Co., 25 Taylor St., San Francisco. (450)

Pleasanton, Cal., VALLEY D. I., Box 231, Santa Rita Rd. Exec: Westside Ths., and Roy Cooper, 988 Market St., San Francisco. (364)

Porterville, Cal., PORTERVILLE D. I., Box 990. Exec: C. N. Spivey, and Verne Schwin. (500)

Red Bluff, Cal., RED BLUFF AUTO MOVIE. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (350)

Redding, Cal., STARLIGHT D. I. Exec: United Th., Inc., and Espy and Perkins. (450)

Riverdale, Cal., HILL'S D. I., P. O. Box 106. Exec: Dr. Gerald Hill, and Howard Hill. (326)

Roseville, Cal., CITRUS HEIGHTS D. I., P. O. Box 71. Exec: Gen. Theatrical Co., 25 Taylor St., San Francisco. (550)

Sacramento, Cal., EL RANCHO D. I., 2000 W. Capital Ave., Rt. 1, Box 1500. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (650)

Sacramento, Cal., FRUITRIDGE D. I., 5201 Fruitridge Rd. Exec: Blumenfeld Ths., 70 Eddy St., San Francisco. (848)

Sacramento, Cal., SKYVIEW D. I. Exec: Marvin Martines. (618)

Salida, Cal., DRIVE IN, P. O. Box 1124. Exec: Stanislaus Motor-In, Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (570)

Salinas, Cal., AUTO MOVIES D. I., East Market and Simas. Exec: Sam Enea. (498)

Salinas, Cal., SKYVIEW D. I., Sanborn Rd. Exec: Antone and Marvin Martines. (618)

San Francisco, Cal., GENEVA D. I., 2150 Geneva Ave. Exec: Ray Syufy, and Arch Buying and Booking Serv., 341 Golden Gate Ave. (800)

San Jose 27, Cal., ALUM ROCK D. I., 1969 Alum Rock Ave. Exec: Andrew Sasso, and General Theatrical Co., 25 Taylor St., San Francisco. (500)

San Jose, Cal., EL RANCHO D. I., Alma and Almaden. Exec: P. R. Catalana. (800)

San Jose, Cal., MOONLIGHTE D. I. (Santa Clara), El Camino Real and Bowers Ave. Exec: United Cal. Ths., Inc., 172 Golden Gate, San Francisco. (1000)

San Jose, Cal., SAN JOSE D. I., Rt. 2, Box 479-B. Exec: Gannon Bros. (500)

San Jose, Cal., SPARTAN D. I., Box 26., 1139 Washington Ave. Exec: L. C. Hallonquist, and General Theatrical Co., 25 Taylor St., San Francisco. (700)

San Leandro, Cal., OAKLAND D. I., 15065 E. 14th St. Exec: Eden Th. Co., Inc., and David Bolton, 168 Golden Gate, San Francisco. (450)

San Leandro, Cal., STADIUM AUTO MOVIE, 15065 E. 14th St. Exec: Eden Th. Co., Inc., and David Bolton, 168 Golden Gate, San Francisco. (730)

San Mateo, Cal., STUDIO D. I. Exec: United California Ths., Inc., 172 Golden Gate, San Francisco. (500 and 350 Seats)

San Pablo, Cal., RANCHO D. I., 1220 Connecticut. Exec: Richmond Drive-In, Inc., and Ray Syufy. (560)

San Pablo, Cal., SAN PABLO AUTO MOVIES D. I. Exec: United California Ths., Inc., 172 Golden Gate, San Francisco. (800)

San Rafael, Cal., MARIN MOTOR MOVIES D. I., 1000 Francisco Blvd. Exec: Blumenfeld Ths., 70 Eddy, San Francisco. (504)

San Rosa, Cal., VILLAGE D. I., Box 1411. Exec: Redwood Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (699)

Santa Cruz, Cal., ENCINA D. I. Exec: California Empire Th., Inc., and David Bolton, 168 Golden Gate, San Francisco. (750)

Shafter, Cal., DEL-KERN D. I., Box 1365. Exec: Panero Th. Co., Rm. 700-A, 25 Taylor, San Francisco. (350)

State Line, Cal., TAHOE D. I., Hwy. 50, Box 96. Exec: William I. Garren, Albany Th., Albany. (250)

Stockton, Cal., 99-E D. I., R.R. 2, Box 1283. Exec: United California Ths., Inc, 172 Golden Gate, San Francisco. (600)

Stockton, Cal., MOTOR MOVIES, 546 E. Main. Exec: Blumenfeld Ths., 70 Eddy St., San Francisco. (887)

Susanville, Cal., LASSEN AUTO MOVIE D. I. (Johnsonville). Exec: United California Ths., Inc., 172 Golden Gate, San Francisco. (350)

Tracy, Cal., SHOWBOAT D. I. Exec: Principal Ths., 1640 W. Washington Blvd., Los Angeles. (500)

Turlock, Cal., LUCKY D. I., 601 W. Main, Box 346. Exec: Clayton Gran, and Robert Clark Agency, 3108 Monterey, San Mateo . (415)

Ukiah, Cal., STATE D. I. Exec: Redwood Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (490)

Vallejo, Cal., CRESCENT D. I., County Rd., Box 266. Exec: United California Theatres, Inc., 172 Golden Gate, San Francisco. (550)

Vallejo, Cal., VALLEJO AUTO MOVIES D. I. Exec: Ray Syufy, Ritz Th. (710)

Visalia, Cal., SEQUOIA AUTO THEATRE, P. O. Box 1184. Exec: Westland Ths., 291 Golden Gate, San Francisco. (480)

Watsonville, Cal., STARLITE D. I., P. O. Box 781. Exec: O. R. Robbins, and United California Ths., Inc., 172 Golden Gate, San Francisco. (637)

Williams, Cal., SUNDOWN D. I., Box 296. Exec: Ned Steele, Jr. (300)

Woodland, Cal., SUNSET D. I. Exec: Peter Garratte, Yolo Th., 402 Main St. (300)

Yreka, Cal., YREKA D. I. Exec: Oregon-California Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco. (402)

Yuba City, Cal., AUTO-SEE D. I. Exec: Redwood-Lippert Ths., 1069 Market, San Francisco. (500)

Nevada

(NOTE: See also Los Angeles and Salt Lake City Territories)

Carson City, Nev., SKYVIEW D. I. Exec: George Gessler. (300)

Hawthorne, Nev., MINERALITE D. I. Exec: Charles Leonard. (350)

Reno, Nev., MIDWAY D. I., Hwy. 395 and S. Virginia Rd. Exec: Midway Ents., Inc., 4025 Lankershim Blvd., N. Hollywood, Cal., and Floyd Bernard. (350)

Sparks, Nev., EL RANCHO D. I. (Reno), 2400 Prater Way. Exec: William David, 988 Market, San Francisco, Cal., and Blumenfeld Ths., 70 Eddy St., San Francisco, Cal. (580)

Yerington, Nev., DRIVE IN, % Yerington Th. Exec: Peter and Gina Perry. (—)

Oregon

(NOTE: See also Portland Territory)

Klamath Falls, Ore., SHASTA D. I., % Pelican Th. Exec: Oregon-California Ths., Inc., and Redwood-Lippert Ths., 1069 Market, San Francisco, Cal. (500)

Lakeview, Ore., CIRCLE J. M. D. I. Exec: M. Alger. (—)

Hawaii

Honolulu, T. H., Hawaii, DRIVE IN, P. O. Box 3737. Exec: Consolidated Amuse. Co., 25 Taylor St., San Francisco, Cal., Fred D. Williams, and Kenneth H. Means. (760)

SEATTLE TERRITORY

Idaho

(NOTE: See also Salt Lake City Territory)

Coeur D'Alene, Ida., COEUR D'ALENE D. I., Box 848. Exec: Maxine Seale, P. O. Box 848. (350)

Coeur D'Alene, Ida., SHOWBOAT CRUISE-IN D .I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (310)

Coeur D'Alene, Ida., STARLIGHT DUDE RANCH D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (300)

Kamiah, Ida., B AND K STARLIGHT D. I. Exec: Miner Bethman. (200)

Lewiston, Ida., AUTO-VUE D. I., Highway 99. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (450)

Lewiston, Ida., ORCHARD'S AUTO D. I. Exec: Harry Wall, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (400)

Moscow, Ida., AUTO D. I., P. O. Box 304. Exec: Ed Metzgar. (465)

Orifino, Ida., RIVERVIEW D. I. Exec: D. Snyder and C. Frensdorf. (250)

Sandpoint, Ida., MOTOR MOVIE D. I. Exec: Frank C. Weskil. (360)

Smelterville, Ida., PAT'S AUTO VUE D. I. Exec: Pat Metzgar, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle, Wash. (416)

Washington

(NOTE: See also Portland Territory)

Aberdeen, Wash. (Central Park), HARBOR D. I. (Montesano), Rt. 1. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (380)

Alderwood Manor, Wash., SNO-KING D. I., Hwy. 99. Exec: Cosmo J. Rocky, 4534 14th So., Seattle. (500)

Bellingham, Wash., MOONLITE D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (500)

Bellingham, Wash., MOTOR-VUE D. I., Highway 99. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (450)

Bremerton, Wash., KITSAP D. I. Exec: D. Spracher, G. Blair, E. W. Johnson, and R. Thompson. (390)

Cashmere, Wash., VALE D. I. Exec: Ben Slowe, Saffle Th. Serv., 2421 2nd Ave., Seattle. (350)

Centralia, Wash., TWIN CITY D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (725)

Clarkston, Wash., CLARKSTON AUTO D. I. Exec: Liberty Th. Co., and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (350)

Colville, Wash., AUTOVUE D. I. Exec: Max Hadfield. (300)

Dayton, Wash., SUNSET D. I. Exec: Lowell Spiess. (250)

Deer Park, Wash., DEER D. I. Exec: LuElla Mackey. (250)

Eastsound, Wash., ORCAS D. I. Exec: Palmer Stearns, and E. D. Pollock, Lincoln Th., Mt. Vernon. (50)

Ellensburg, Wash., ELLEN D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (500)

Everett, Wash., EVERETT MOTOR MOVIE. Exec: George DeWaide, B. F. Shearer Co., 2318 2nd Ave., Seattle (725)

Everett, Wash., SKY-VUE D. I. Exec: Edward J. Bowling. (250)

Factoria, Wash., SUNSET D. I. (Seattle), Sunset Hwy. Exec: Fred Danz, Sterling Ths., Palomar Th. Bldg., Seattle. (800)

Fife, Wash., FIFE D. I., Rt. 2, Box 4, Tacoma. Exec: William Forman, 1016 Securities Bldg., Seattle. (450)

Kennewick, Wash., HI-LAND D. I., Highway 410. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (600)

Kennewick, Wash., PARK IN Y D. I., Highway 410. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (425)

Kent, Wash., EL RANCHO D. I., bet. Kent and Renton. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (515)

Midway, Wash., MIDWAY D. I., Hwy. 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Moses Lake, Wash., BASIN D. I. Exec: John Lee. (284)

Mount Vernon, Wash., SKAGIT D. I. Exec: E. D. Pollock, Lincoln Th. (482)

Newport, Wash., NEWPORT D. I., P. O. Box 202. Exec: J. H. Ownbey. (200)

Olympia, Wash., LACEY D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (500)

Olympia. Wash., SUNSET D. I., Highway 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (480)

Omak, Wash., VALLEY D. I., Highway 97. Exec: A. J. Varrelman, P. O. Box 242, Pateros. (200)

Othello, Wash., SUNSET D. I. Exec: C. Finkbeiner. (115)

Pasco, Wash., RIVER-VUE D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (600)

Port Angeles, Wash., PORT ANGELES D. I. Exec: Fred Danz, Sterling Ths., Palomar Bldg., Seattle. (347)

Port Orchard, Wash., RODEO D. I., Route 4. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (600)

Port Townsend, Wash., WHEEL-IN D. I. Exec: E. E. Thompson, Rose Th. (320)

Poulsbo, Wash., BIG BEAR D. I. Exec: Walquist and Haugen, Almo Th. (250)

Prosser, Wash., PROSSER D. I. Exec: Jack Pearl, and Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (300)

Pullman, Wash., BIG SKY MOTOR MOVIE D. I. Exec: LaVance Weskil, and Raffles. (450)

Pullman, Wash., PULLMAN D. I., Box 843. Exec: R. Tate, J. M. Hutchinson. (300)

Richland, Wash., SKY-LINE D. I., P. O. Box 657. Exec: Midstate Amuse. Co., Box 398, Walla Walla. (600)

Richland, Wash., STAR-VUE D. I. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (500)

Ritzville, Wash., AUTO-VUE D. I. Exec: John N. Mattmiller. (225)

Seattle, Wash., AURORA D. I., Hwy. 99, 13500 Aurora Ave. Exec: Lou Pressler, 1016 Securities Bldg. (500)

Seattle, Wash., DuWAMISH MOTOR D. I. 112th So. and Hwy. 99. Exec: Lou Pressler, 1016 Securities Bldg. (700)

Seattle. Wash., KENMORE D. I. (Kenmore). Exec: Lou Pressler, 1016 Securities Bldg. (750)

Soap Lake, Wash., PARK-IN D. I. Exec: John Lee. (250)

Spokane, Wash., AUTO-VUE D. I., Hwy. 195, 112th So. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (400)

Spokane, Wash., EAST SPRAGUE D. I., Sprague Ave., Box 2188. Exec: Joe Rosenfield, 7141/2 W. Riverside. (600)

Spokane, Wash., EAST TRENT D. I. (Formerly Motor-In), Hwy. 53. Exec: Joseph Rosenfield, 7141/2 W. Riverside. (750)

Spokane, Wash., WEST END D. I. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Spokane, Wash., "Y" D. I. Exec: Robert S. Clark, Saffle Th. Serv., 2421 2nd Ave., Seattle. (410)

Sunnyside, Wash., STAR-LITE D. I. Exec: Lloyd Honey, and Midstate Amuse. Corp., P. O. Box 398, Walla Walla. (400)

Tacoma, Wash., AUTO-VUE D. I., Hwy. 99, McChord Field. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (600)

Tacoma, Wash., STAR-LITE D. I., Highway 99. Exec: Lou Pressler, 1016 Securities Bldg., Seattle. (500)

Toppenish, Wash., TOP-HI D. I., P. O. Box 352. Exec: E. A. Darby, Naches Th., Naches. (300)

Walla Walla, Wash., SKY-VUE D. I., Highway 410. Exec: Howard McGhee, Midstate Amuse. Corp., P. O. Box 398. (400)

Wenatchee, Wash., AUTO-VUE D. I., Hwy. 10, Box 57 Exec: Pat Tappan, Greime and Fasken Ths., Vitaphone Th. Bldg. (250)

Wenatchee, Wash., VUE-DALE D. I. Exec: Pat Tappan, Greime and Fasken Ths., Vitaphone Th. Bldg. (500)

Yakima, Wash., COUNTRY D. I. Exec: A. M. Anderson, and Saffle Th. Serv., 2421 2nd Ave., Seattle. (500)

Yakima, Wash., TOWER D. I. (Union Gap), Highway 97. Exec: Frederick Mercy, Jr., First Natl. Ths., P. O. Box 1557. (425)

WASHINGTON, D. C., TERRITORY

Delaware

(NOTE: See also Philadelphia Territory)

Delmar, Del., DELMAR D. I., R. D. #2, Rt. 12. Exec: Rube Shor, 1632 Central Parkway, Cincinnati, O. (750)

MARYLAND

Aberdeen, Md., HARFORD D. I. Exec: Louis Gaertner, 1607 N. Washington St., Baltimore. (500)

Baltimore, Md., ELK RIDGE D. I. (Elk Ridge), 6200 Washington Blvd. Exec: O. J. Hickey. (600)

Baltimore, Md., GEN. PULASKI D. I. (Whitemarsh), Route 40. Exec: Milton Schwaber. (700)

Baltimore, Md., NORTH POINT D. I., N. Point and Battle Grove Rds. Exec: Durkee Ct., Arcade Th. Bldg. (600)

Beltsville, Md., BELTSVILLE D. I., Route 1. Exec: Sidney Lust Ct., 711 14th St. N.W., Washington, D. C. (625)

Cambridge, Md., SUPER 50 D. I., Rt. 50. Exec: Harold DeGraw, Peninsula Amuse. (350)

Church Hill, Md., NEW CHESTERTOWN D. I. Exec: B. C. Hart. (150)

Churchville, Md., BEL AIR D. I. Exec: John Manuel. (300)

Clinton, Md., BRANCH D. I., Branch Ave. Exec: Don King. (700)

Cumberland, Md., CRYSTAL D. I., Box 1075. Exec: Richard B. Young. (300)

Cumberland, Md., POTOMAC D. I., Rt. 53, P. O. Box 176. Exec: Paul Owen. (450)

Cumberland, Md., STARLITE D. I. Exec: Ed Growden. (300)

Cumberland, Md., SUPER 40 D. I., Box 1087. Exec: Paul Owen. (450)

Elkton, Md., ELKTON D. I., R. D. #2, Rt. 40. Exec: Rube Shor, 1632 Central Parkway, Cincinnati, Ohio. (450)

Frederick, Md., BRADDOCK D. I. Exec: D. Weinberg. (300)

Frederick, Md., FAMILY D. I., Rt. 4. Exec: E. F. Lane. (150)

Glen Burnie, Md., GOV. RITCHIE D. I., Rt. 301 and Gov. Richie Hwy., Box 25. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (500)

Hancock, Md., HANCOCK D. I., R.F.D. #2. Exec: I. W. Linebaugh, and J. K. Ridenour, 200 Calvert Terrace, Hagerstown. (250)

Hillside, Md., HILLSIDE D. I., 6200 Marlboro Pike S.E., Washington 27, D. C. Exec: Sidney Lust Ct., 711 4th St. N.W., Washington, D. C. (740)

Lexington Park, Md., 235 D. I., Rt. 235. Exec: J. Fruchtman. (300)

Mount Lena, Md., HIWAY D. I. Exec: D. Weinberg. (500)

***North Branch, Md.,** FAMILY D. I. Exec: E. Mueller. (16mm.)

Oakland, Md., 219 D. I., Rt. 219. Exec: Harry Speicher. (200)

Ocean City, Md., SHORE D. I., Box 102. Exec: William Carrier. (500)

Oxen Hill, Md., ABC D. I., 7100 Indian Head Rd., S.E., Oxen Hill. Exec: Lloyd Wineland, Anacostia Th., 1415 Good Hope Rd., S.E., Washington, D. C. (650)

Pasadena, Md., SHORE D. I. Exec: Louis Gaertner, 1607 North Washington St., Baltimore. (700)

Pocomoek City, Md., POCOMOKE D. I., Box 149. Exec: William J. Myers. (350)

Rockville, Md., ROCKVILLE D. I., Rt. 340, Martin Lane. Exec: K-B Ct., Apex Th., 4813 Massachusetts Ave., N.W., Washington, D. C. (750)

Silesia, Md., SUPER CHIEF D. I., Indian Head Hwy. Exec: J. Bernheimer, 1315 Rhode Island Ave., Washington, D. C. (642)

Taneytown, Md., MONOCACY D. I. Exec: John G. Miller. (337)

Vista, Md., PALMER D. I., Palmer Hwy. Exec: J. Bernheimer, 1315 Rhode Island Ave., Washington, D. C. (650)

Westminster, Md., RIDGE D. I. Exec: Johnson and Saunders, 1145 19th St., N.W., Washington, D. C. (250)

Williamsport, Md., HAGER D. I., Route 11. Exec: Mrs. Fred Ungar. (350)

North Carolina

(NOTE: See also Atlanta and Charlotte Territories)

South Pelham, N. C., PELHAM D. I. Exec: J. C. Donahue. (350)

Virginia

Abingdon, Va., MOONLIGHT D. I., Route 2. Exec: T. D. Field. (400)

Alexandria, Va., MT. VERNON D. I., Route 1. Exec: E. M. Loew Ct., 175 Huntington St., Boston, Mass. (750)

Alexandria, Va., SUNSET D. I., Leesburg Pike, Rt. 7. Exec: Harry Wilson, 6500 Carlyn Ct., Falls Church. (300)

Alta Vista, Va., ALTA D. I., U. S. Hwy. 29. Exec: Ed English. (200)

Amelia, Va., GOLDEN GATE D. I. Exec: Tom Golden. (100)

Appomattox, Va., COSWELL D. I. Exec: John Caldwell. (100)

Arlington, Va., AIRPORT D. I., 2001 Jefferson Davis Hwy. Exec: Paul J. Foley. (650)

Ashland, Va., ROSE BOWL D. I. Exec: W. E. Rowlette. (300)

Austinville, Va., AUSTINVILLE D. I. Exec: G. W. McGee. (200)

***Aylett, Va.,** AYLETT D. I. Exec: R. S. Flippo. (16mm.)

Bassett, Va., FAMILY D. I., Bassett Forks. Exec: F. W. Carper. (300)

Bedford, Va., BEDFORD D. I. Exec: D. Weinberg. (175)

Blackstone, Va., GROVE D. I. Exec: Z. T. Perdue. (253)

Blackwood, Va., CENTRAL D. I. Exec: H. Kiser and R. Lodge. (150)

Blue Grass, Va., HIGHLAND D. I. Exec: Rexrote and Puffenberger. (150)

Buchanan, Va., MT. JOY D. I. Exec: Jack Jackson. (250)

Buena Vista, Va., MT. VIEW D. I., P. O. Box 463. Exec: Sebert Hull, Hull and Phillips. (206)

Carrsville, Va., CARRSVILLE D. I. Exec: H. J. Lyon. (300)

Charlottesville, Va., RIDGE D. I., Rt. 29. Exec: Neighborhood Ths., Richmond. (548)

Chase City, Va., CHASE CITY D. I. Exec: R. E. Green. (200)

Chatham, Va., STARLITE D. I. Exec: Everett Haley. (250)

Christiansburg, Va., STARLITE D. I. Exec: R. W. Beasley. (162)

Clarksville, Va., CLARKSVILLE D. I. Exec: O. P. Chandler, Jr. (200)

Clarkton, Va., TRI COUNTY D. I. Exec: C. F. Branscome. (150)

Clifton Forge, Va., NEW PARK D. I. Exec: Gerald Mundy. (300)

Clintwood, Va., STARLITE D. I. Exec: W. C. Southern. (184)

Coeburn, Va., LONESOME PINE D. I. (Norton). Exec: P. C. Datson. (175)

***Colonial Beach, Va.,** BEACH D. I. Exec: W. P. Worman, T. E. Campbell and E. Toft. (16mm.)

Copper Hill, Va., VEST D. I. Exec: S. G. Vest. (150)

Covington, Va., CALLAGHAN D. I., Route 2. Exec: E. L. Lockhart. (200)

Covington, Va., HIWAY D. I. Exec: Harry W. Robertson. (300)

Craddock, Va., SUPER 17 D. I., P. O. Box 2068. Exec: W. R. Saunders. (500)

Craigsville, Va., CRAIG D. I., Hwy. 42. Exec: John Herndon. (89)

Crozet, Va., CROZET D. I. Exec: R. H. Hurt. (141)

Culpepper, Va., PITTS D. I. Exec: Benj. Pitts Ct. Fredericksburg. (200)

Cumberland, Va., DICK'S D. I. Exec: (98)

Damascus, Va., LAUREL D. I. Exec: Joseph L. Meek. (300)

Danville, Va., CRESCENT D. I., P. O. Box 759. Exec: T. A. Little. (500)

Danville, Va., 360 D. I. Exec: L. W. Lea. (450)

Dublin, Va., PULASKI D. I., Route 11. Exec: Earl B. Faw. (175)

East Stone Gap, Va., POWELL D. I. Exec: M. K. Murphy. (280)

Elk Creek, Va., ELK CREEK D. I. Exec: B. A. Rnudy. (125)

Elkton, Va., BLUE RIDGE D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (150)

Elkton, Va., CAVALIER D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (300)

Emporia, Va., PITTS D. I. Exec: Benjamin Pitts Ct., Fredericksburg. (178)

Farmville, Va., FARMVILLE D. I., Rt. 15. Exec: Neighborhood Ths., Richmond. (400)

Floyd, Va., FLOYD WILLIS D. I. Exec: L. Branscome. (150)

Fredericksburg, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (546)

Fries, Va., HESTERS D. I. Exec: W. H. Hester. (225)

Front Royal, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (250)

Galax, Va., AIRPORT D. I., Box 27. Exec: R. F. Jones. (200)

Galax, Va., MIDWAY D. I., Route 58. Exec: C. W. Curtis. (300)

Galax, Va., STAR D. I. Exec: C. W. Curtis. (300)

Gate City, Va., SUNDOWN D. I., Gate City Hwy., Rt. 6. Exec: Sundown Th. (225)

Gate City, Va., TAYLOR D. I. Exec: Malcom Taylor. (250)

Glade, Va., VILLAGE D. I. Exec: T. D. Fields. (175)

Glade Springs, Va., SUMMIT D. I. Exec: J. L. Meek. (225)

Gordonsville, Va., GORDONSVILLE D. I. Exec: E. L. Ornduff. (100)

Greenville, Va., STARLITE D. I. Exec: Floyd Hardin. (150)

Hampton, Va., LUST D. I. (Hilton Village), P. O. Box 143. Exec: Sidney Lust Ct., 711 14th St., N. W., Washington, D. C. (760)

Hanover, Va., HANOVER D. I. Exec: C. M. Reese. (80)

Harrisonburg, Va., HARRISONBURG D. I., Box 685. Exec: R. L. Bean. (300)

Harrisonburg, Va., ROTH D. I. Exec: Valley Entr., 1336 New York Ave., N. W., Washington, D. C. (300)

Hillsville, Va., HILLSVILLE D. I. Exec: M. P. Newman. (253)

Kenbridge, Va., K AND T D. I. Exec: Kendig and Tanner. (200)

Keysville, Va., KEYSVILLE D. I. Exec: W. L. Toryless. (150)

Kilmarnock, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (225)

Lawrenceville, Va., PITTS D. I. Exec: Benjamin T. Pitts Ct., Fredericksburg. (150)

Lebanon, Va., CAVALIER D. I. Exec: Hazel Coleman. (200)

Lexington, Va., LEE D. I. Exec: R. Perdue. (220)

Lexington, Va., STEVESVILLE D. I. Exec: Neofotis and Daher. (200)

Louisa, Va., DICKS D. I., R.F.D. #2. Exec: R. D. Robertson. (100)

Louisa, Va., TALLEY D. I. Exec: H. C. Talley. (200)

Luray, Va., PAGE D. I. Exec: D. F. Aleshire. (250)

Lynchburg (Madison Heights), Va., AMHERST D. I., Rt. 3, Box 215A. Exec: Neighborhood Ths., Richmond. (495)

Lynchburg, Va., HARVEY'S D. I. Exec: R. L. White. (500)

Manassas, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (200)

Marion, Va., PARK D. I., P. O. Box 525. Exec: William MacKenzie, Jr. (200)

Marion, Va., SKYVIEW D. I., P. O. Box 693. Exec: H. C. Chitwood. (280)

Martinsville, Va., CASTLE D. I. Exec: Mrs. J. C. Carper. (500)

Martinsville, Va., FRIENDLY D. I. Exec: Cecil Ward. (300)

Martinsville, Va., MARTINSVILLE D. I., Hwy. 220, P. O. Box 788. Exec: Mrs. J. C. Carper. (300)

Merrifield (Falls Church), Va., LEE HIGHWAY D. I., Arlington and Gallows Rd. Exec: M. Redstone, 260 Tremont St., Boston, Mass. (1000)

New Castle, Va., LYNN D. I. Exec: Jerome Abbott. (150)

Newport News, Va. (Hampton), GREEN ACRES AUTO PARK, Box 461, 39th St. and Aberdeen. Exec: Gordon Bros. (500)

Norfolk, Va., NORFOLK D. I., Virginia Beach Blvd., Rt. 58. Exec: Fabian Ct., 1501 Broadway, New York, N. Y. (768)

Norfolk, Va., SOUTH D. I. Exec: Johnson adn Saunders. (800)

Norfolk, Va., WILDER D. I. Exec: Wilder Ct., Colley Th. Bldg. (650)

Onancock, Va., FOX D. I. Exec: Roland Sommers. (250)

Orange, Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg. (200)

Patrick Springs, Va., PATRICK D. I. Exec: Cecil Ward. (230)

Pearisburg, Va., PARK D. I., Box 455. Exec: Linden Hurst. (300)

Petersburg, Va., BLUE STAR D. I. Exec: Kent Benson. (250)

Petersburg, Va., PARK D. I., 2400 E. Bank P. O. Box 813. Exec: W. R. Saunders. (500)

Portsmouth, Va., AUTOPORT D. I. Exec: Jeff Hoffheimer. (675)

Radford, Va., AUTODROME D. I. Exec: J. D. Conklin. (200)

Radford, Va., HI WAY D. I., Rt. 11, P. O. Box 842. Exec: C. A. Lucas. (416)

Radford, Va., MIDWAY D. I. (Christiansburg). Exec: J. D. Conklin. (200)

Richland, Va., GUY'S D. I. Exec: F. G. Flannery, Jr. (300)

Richmond, Va., BELLWOOD D. I., Rt. 1, Box 1896. Exec: Neighborhood Ths. (1000)

Richmond, Va., BROADWAY OPEN AIR D. I., 4116 Grove Ave. Exec: J. E. Groh. (504)

Richmond, Va., GLEN D. I., 2500 Mechanicsville Pike. Exec: Sam Pulliam. (230)

Richmond, Va., SUNSET D. I., 219 E. Main. Exec: Childress and Childress. (355)

Richmond, Va., TWIN PINES D. I. Exec: Max Holland, Bob and Lewis Saunders. (400)

Roanoke, Va., LEE HI D. I., 1816 Carlton Rd. Exec: J. R. Francis. (600)

Roanoke, Va., LOCH HAVEN D. I. (Formerly Booker-T Washington). Exec: Sink and Lovell. (220)

Roanoke, Va., NORTH 11 D. I., Peters Creek Rd. Exec: Jack Kirby. (400)

Roanoke, Va., RIVERSIDE D. I. Exec: Pence and Watts. (250)

Roanoke, Va., SHENANDOAH D. I. Exec: L. I. Theimer. (300)

Roanoke, Va., STAR CITY D. I. Exec: Warner and Chance. (250)

Roanoke, Va., TRAIL D. I., Rt. 1, P. O. Box 191A. Exec: G. A. Mundy. (250)

Rocky Mount, Va., STAR VUE D. I. Exec: J. B. Allman. (200)

Ruckersville, Va., RUCKERSVILLE D. I. Exec: M. F. Weaver. (150)

Rural Retreat, Va., HILAND D. I. Exec C. E. Dalton. (150)

Saint Paul, Va., BLUE GRASS D. I. Exec: G. T. Coleman. (200)

Salme, Va., QUEEN D. I. Exec: W. A. Bohan. (150)

Sandston, Va., RICHMOND D. I. (Richmond), Williamsburg Rd., Rt. 3, Box 75. Exec: J. J. Kimmel. (425)

South Boston, Va., 501 D. I., P. O. Box 409. Exec: E. R. English. (200)

South Boston, Va., MOONLITE D. I., Route 58. Exec: C. G. Harris. (100)

South Hill, Va., OAK D. I. Exec: G. V. Jenkins and C. W. Gregary. (102)

Staunton, Va., STAUNTON D. I. Exec: Trans America Corp. (290)

Stuart, Va., SKYVUE D. I. Exec: C. F. Branscome. (150)

***Stuartsville, Va.,** STUARTSVILLE D. I. Exec: R. M. Smith. (16mm.)

Suffolk, Va., PLANTATION D. I. Exec: Benjamin T. Pitts Ct., Fredericksburg. (500)

Suffolk, Va., SUFFOLK D. I. Exec: Benjamin T. Pitts Ct., Fredericksburg. (300)

Tabb, Va., YORK D. I., P. O. Box 463. Exec: M. V. Hogge. (200)

Tazewell, Va., SUNSET D. I. Exec: T. D. Field. (200)

Troy, Va., HUNTERS LODGE D. I. Exec: J. T. Robinson, Jr. (150)

Van Sant, Va., VAN SANT D. I. Exec: J. J. Kraft, Jr. (300)

Vinton, Va., DIXIE D. I., P. O. Box 157. Exec: E. C. Creasy and W. A. Bohon. (275)

Virginia Beach, Va., VIRGINIA BEACH D. I., P. O. Box 297. Exec: Fabian Ct., 1501 Broadway, New York, N. Y. (474)

Warner, Va., MIDDLESEX D. I. Exec: Gary Chatham. (150)

Warrenton, Va., PITTS D. I. Exec: Benjamin T. Pitts Ct., Fredericksburg. (150)

Warwick, Va., ANCHOR D. I., Jefferson Ave. N. of Main St., (Chesterfield P. O.). Exec: Gordon Bros., Newport News. (500)

Waynesboro, Va., SKYLINE D. I., 326 King Ave. Exec: Newbold and Kessling Ct. (407)

West Point, Va., WEST POINT D. I., P. O. Box 201, Rt. 30. Exec: J. B. Cowles and M. Pilcher. (350)

Williamsburg, Va., STOCKADE D. I., Richmond Rd., Box 38. Exec: Cecil Houck. (350)

Winchester, Va., ROYAL D. I., Box 359. Exec: E. E. Ours. (300)

Winchester, Va., WINCHESTER D. I., P. O. Box 97. Exec: Ray J. Becker. (300)

Wise, Va., MULLINS OPEN AIR D. I., Rt. 23. Exec: Earl B. Mullins. (250)

Woodstock, Va., SHENANDOAH D. I. (Edinburg), Rt. 1. Exec: Teddy Shull. (300)

Woodway, Va., RAINBOW D. I. Exec: Earl B. Mullins. (200)

Wytheville, Va., SUNSET D. I. Exec: Convern Dalton. (200)

West Virginia

(NOTE: See also Cincinnati and Pittsburgh Territories)

Bartow, W. Va., BARTOW D. I., Box 6. Exec: Wm. E. Kisner. (200)

Bolivar, W. Va., FORT D. I. Exec: E. F. Lane, P. O. Box 761, Martinsburg. (100)

Burlington, W. Va., BAKER'S AIR PARK D. I. Exec: D. S. Baker. (200)

Charles Town, W. Va., PITTS D. I. Exec: Benj. T. Pitts Ct., Fredericksburg, Va. (225)

Franklin, W. Va., WARNER D. I. Exec: Harold Warner. (150)

Inwood, W. Va., INWOOD D. I. Exec: E. F. Lane, P. O. Box 761, Martinsburg. (275)

Keyser, W. Va., ALLEGANY D. I. (McCool), 40 S. Main St., Petersburg, W. Va. Exec: Eston and Albert Brill. (200)

Keyser, W. Va., HIROCK D. I. (McCool). Exec: J. E. Whetsell. (150)

Marlinton, W. Va., BUCKEYE D. I. Exec: Charles J. Eib. (200)

Martinsburg, W. Va., PINE GROVE D. I. Exec: Roth Ct. (275)

Martinsburg, W. Va., SKY VUE D. I., P. O. Box 1652. Exec: Mrs. S. D. Murphy. (400)

Moorefield, W. Va., MOOREFIELD D. I., Rt. 220. Exec: James Miley and Gray Barker, Box 981, Clarksburg. (200)

Princeton, W. Va., ANITA D. I. Exec: R. E. Perdue. (275)

Drive-In Wide Screen Review

A Number of the Leading Manufacturers of Screen Towers and Facings Offer Valuable Information About Wide Screens for Drive-In Theatres

BRIEF: *The installation of a wide screen at outdoor theatres has practically become a must since the public has apparently decided that this is the type of film presentation it prefers . . . However . . . although the decision to install a wide screen may be a simple one to make . . . the matter of whether or not to enlarge the present tower . . . or erect a new tower . . . and what type of facing to use . . . is not quite so simple.*

In an attempt to give the reader a fuller understanding of what there is currently available to him . . . this article offers a review of some of the leading screen tower designs and facings . . . The information has been supplied by the various manufacturers . . . and should be considered in that light . . . There is a great deal of valuable data here . . . as well as a number of interesting and revealing illustrations . . . Of course . . . this review is by no means complete and there are a number of other designs and products not included here . . . However . . . it is hoped that this article will enable the reader to make a sound selection when he does bring the wide screen to his drive-in.

The problem facing the great majority of drive-in theatre operators today is that of installing the equipment necessary for the showing of CinemaScope, VistaVision, and the other wide screen offerings. At the heart of this problem is the screen tower. The exhibitor must ask himself whether it pays to widen his existing tower, or put in a new tower. He must debate as to the merits of all-steel construction, wooden frames, the type of facing material to use, tilting and curving, etc.

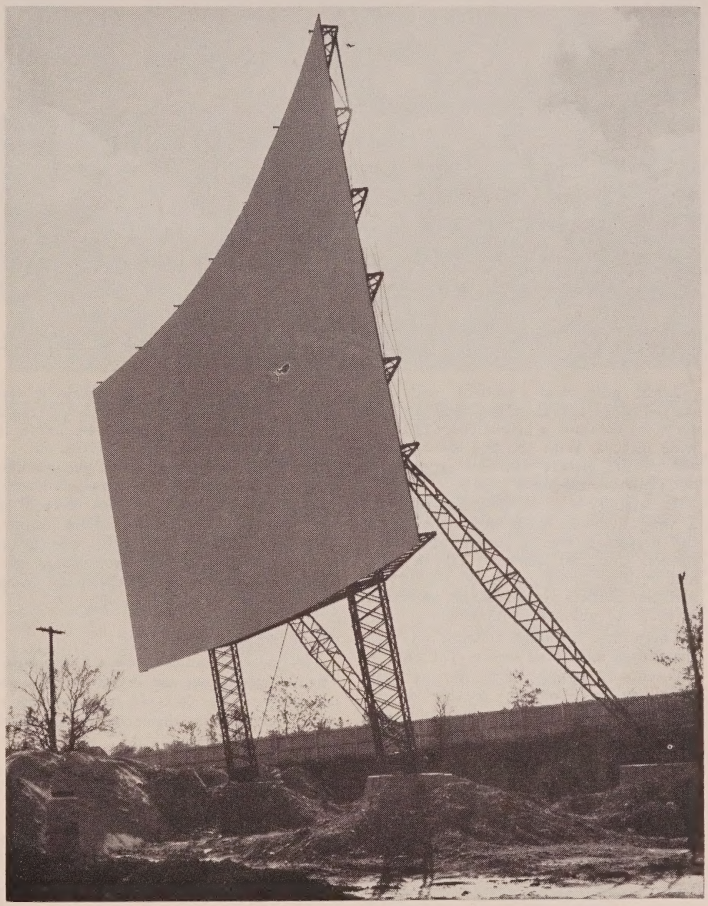
Of course, there is no ONE answer to all of these questions. In almost every instance the final answers will depend upon the individual theatre, and local conditions.

It would be impossible to prepare an article that would enable the reader to decide exactly upon the type and style of screen that would do the best job for his drive-in. However, if enough general information is made available, it is hoped that it will equip the reader with enough background to discuss his screen tower needs more wisely.

The following material represents the opinions and recommendations of the manufacturers who supplied this information, and it should be used as a guide for further investigation and personal consultation.

SIGNS, INC.

Modern cantilevered methods make it possible to design a screen tower with only two front columns, instead of the conventional nine or 11 to do the same job. This feature eliminates, what we think is an unsightly cross patch of framing, lends itself to a sleek design, and only requires four foundation piers instead of the usual 18 or 22.



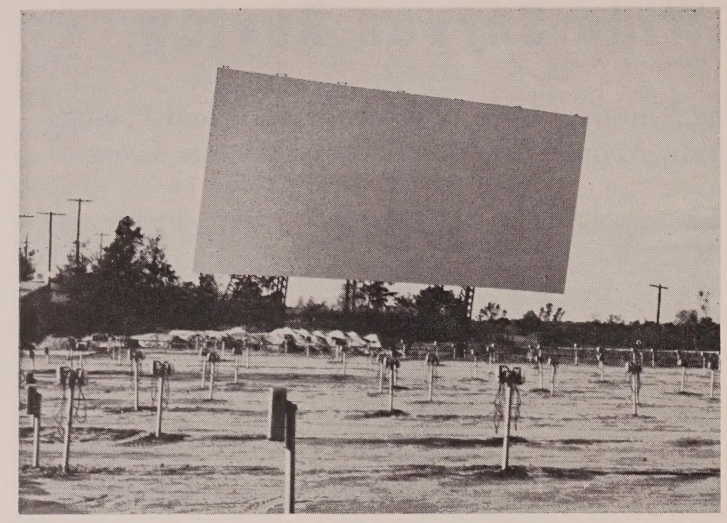
THE SCREEN TOWER design of Signs, Inc. features a curve and a tilt, as can be seen by the picture above. Note that only two front columns are used, and how it lends itself to a sleek, modern appearance.

The use of the clevis pin or hinge arrangement at the base of the column has a number of advantages. If one drive-in has a projection booth 250 feet from the screen and another 400 feet from the screen, it is very simple to tilt the tower forward or backward on the hinge to be able to adjust the screen to the most accurate measure of degree. With this feature, the exhibitor can take advantage of every light gain offered by having the incident of light returned directly into the theatre.

Uses a Curve

As a result of our research and experience we believe that the curved screen has a number of advantages over the flat. The following are some of the comparisons we have made regarding curved and tilted drive-in screen towers, and flat and vertical towers:

The curved and tilted screen gave equal light throughout the entire surface. The flat and vertical was bright in the center, but fell off to dark on the ends.



A FRONT view of the drive-in all-steel screen tower designed by Signs, Inc. The curve has been fabricated into the steel structure, thus eliminating the chance of error in placing the main trusses.

Light gain was excellent with the curved and tilted screen and in our tests we obtained a bright clear 110 foot wide picture. With the flat and vertical screen, the picture was darker and did not show enough light gain.

Reflectivity was excellent and required a very little increase in amperage at the projector with a curved and tilted screen. Our test showed that the flat and vertical tower had poor reflectivity and the amperage had to be increased in order to get a fair picture.

There was excellent distribution with the curved and tilted screen. The picture was equally visible from the extreme ends, and even from the outside edge of the road. Good visibility was obtained at 50 to 55 degrees. The people in the picture were equally in shape at the ends as they were in the center. With the flat and vertical screen there was poor distribution. The characters in the picture were distorted at the extreme ends. At 50 to 55 degrees we found it was difficult to make the picture out.

The design we have developed has the curve fabricated into the steel structure, eliminating any hit or miss method of placing main trusses around the radius. Since this method of steel fabrication costs no more, the exhibitor should certainly take advantage of the many gains the curved screen has to offer.

Ease of Maintenance

The ease of maintenance is an interesting feature. Since the horizontal trusses are only seven feet six inches apart a man can walk up the laced columns and go about painting or servicing the structure without the use of scaffolding or rigging since each truss acts as a staging platform. Outriggers are provided for servicing the screen face.

Regarding the surfacing of this screen, no wood or vertical framing of any kind is necessary. There are no bolts or screws on the picture face of the screen. The interlocking system provides its own vertical rib.

The finish, rolled and stipled on the background, gives a wonderful white matte finish, and also retains its whiteness for a longer length of time due to its unusual flaking action.

New Development

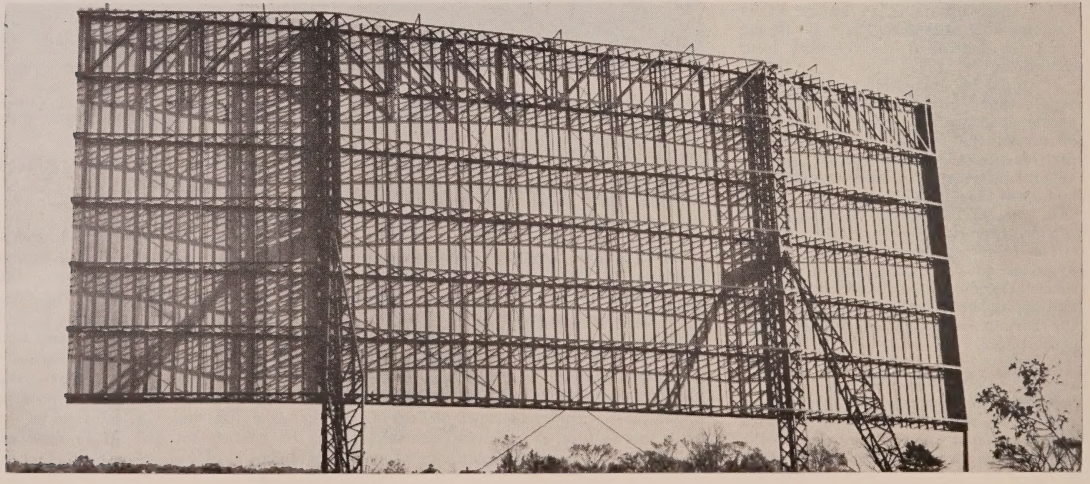
For those parts of the country which are subject to very severe wind storms, we have developed a system to prevent towers from being damaged. We have put in a tower at a Wometco Circuit drive-in, in Florida, for example, which allows for the removal of a pin at the base of the tower, and by using a winch the entire tower may be lowered to the ground. Therefore, with advance warning of a major hurricane, the exhibitor can lower the tower and raise it when the danger is past. This action, however, would only be necessary for a wind storm of major proportions, since these towers are so constructed that they will withstand almost any normal weather disturbance without any special devices.

BALLANTYNE COMPANY

The new type of Boyer EZ-Erect prefabricated sectional screen tower which was developed by drive-in theatre engineers who are specialists in the field, has extreme strength and unlimited flexibility.

Realizing the importance of public safety, the new restrictions being placed by insurance companies, and the new state codes and regulations which are going into effect, this tower has been designed to withstand 35 pounds of wind pressure per square foot.

Another item foremost in thought during the design of this new tower was the high expense involved in the erec-



THIS rear view of the Signs, Inc. screen tower indicates the sturdy construction that goes into it, despite the delicate appearance it gives.

tion. Accordingly, this tower is so designed that it can be entirely assembled and painted on the ground, and then raised into position. The pressure laminated reinforced leg trusses are made in two sections so that they can first be handled by manual labor, eliminating the cost of renting equipment for unloading and placing trusses into position. Also, the trusses can be shipped by common carrier, affording a large savings in shipping charges.

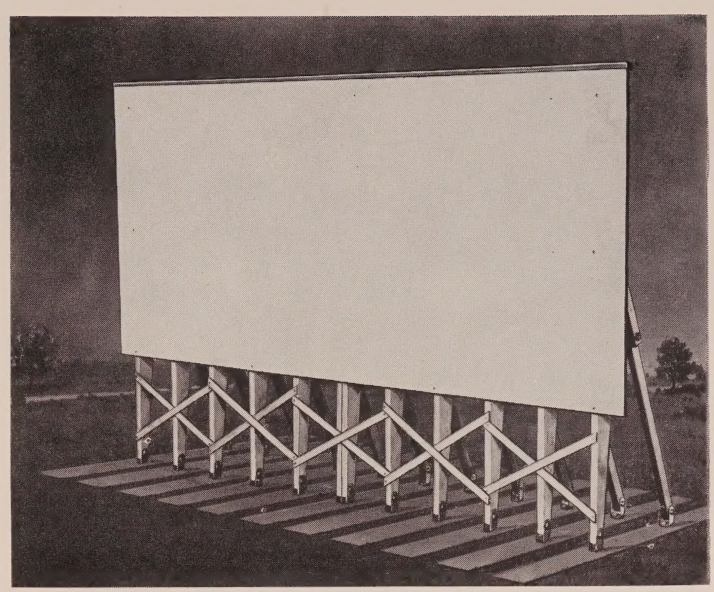
Suitable for Extensions

This type truss is also adaptable for perfect extension of present towers. Designed for erection up to 10 feet on centers, facing can be extended as much as 28 feet by using only two trusses. One truss is placed 10 feet from the edge of the present tower and the surfaced four feet resulting in a 14 foot extension. Applied to both sides of the tower total extension is, of course, 28 feet. The total width of the extensions are unlimited, inasmuch as trusses can be placed on any center desired up to 10 feet and surfacing can be extended any amount desired up to four feet.

Method of Purchasing

One of the highlights of the new tower or extension is the manner in which it can be purchased. Many exhibitors in order to create local good will prefer to buy as much material as possible from local sources. In order to permit the exhibitor to take advantage of this, the tower is so designed that the exhibitor can purchase complete trusses only, purchasing the balance of materials locally. For those who desire to buy a complete unit, we, of course, will supply the tower in its entirety. If trusses only are purchased, we will supply complete assembly drawings with the truss, complete concrete footing details with all necessary iron shear plates, and necessary hardware. For those exhibitors who wish to purchase the surface material locally, we will supply complete material lists along with erection details.

Listed below is a table showing basic screen widths and screen widths obtainable with extensions. At the bottom of the chart, the number of trusses needed in each instance are shown. Maximum screen height is 64 feet.



A MODEL of the EZ-Erect prefabricated sectional screen tower now being made by the Ballantyne Company. By the use of extensions, it can be made any width and up to a maximum height of 64 feet.

by the engineer and exhibitor, for both the new drive-in and existing drive-ins who plan to widen their present towers. In the case of the latter, we strongly urge the exhibitor to only widen his tower and not attempt to increase height. The foundation of your present tower is calculated for the weight and stresses of that tower. Increasing height naturally adds to the weight and therefore will weaken the calculated resistance of your present tower. Height can be increased, but it is a costly procedure, to have the resistance required by state codes and insurance companies.

Today it is an established fact that the drive-in screen tower cannot be considered just another structure, that any local mechanic can throw together with little or no thought. State building codes have become more stringent, realizing the importance of public safety. Insurance companies, after replacing many towers of cheap design, are revising their requirements and rates. The recent chain of events, the hurricanes, wide screen and CinemaScope, have proved beyond the question of doubt, the economies of having a steel screen tower in the drive-in theatre.

Basic Screen Width	40	50	60	70	80	90	100	110
Screen Width with two 1-ft. Facing Wing extensions	42	52	62	72	82	92	102	112
Screen Width with two 2-ft. Facing Wing extensions	44	54	64	74	84	94	104	114
Screen Width with two 3-ft. Facing Wing extensions	46	56	66	76	86	96	106	116
Screen Width with two 4-ft. Facing Wing extensions	48	58	68	78	88	98	108	118
Leg Trusses Needed	5	6	7	9	10	11	12	13

DIT-MCO

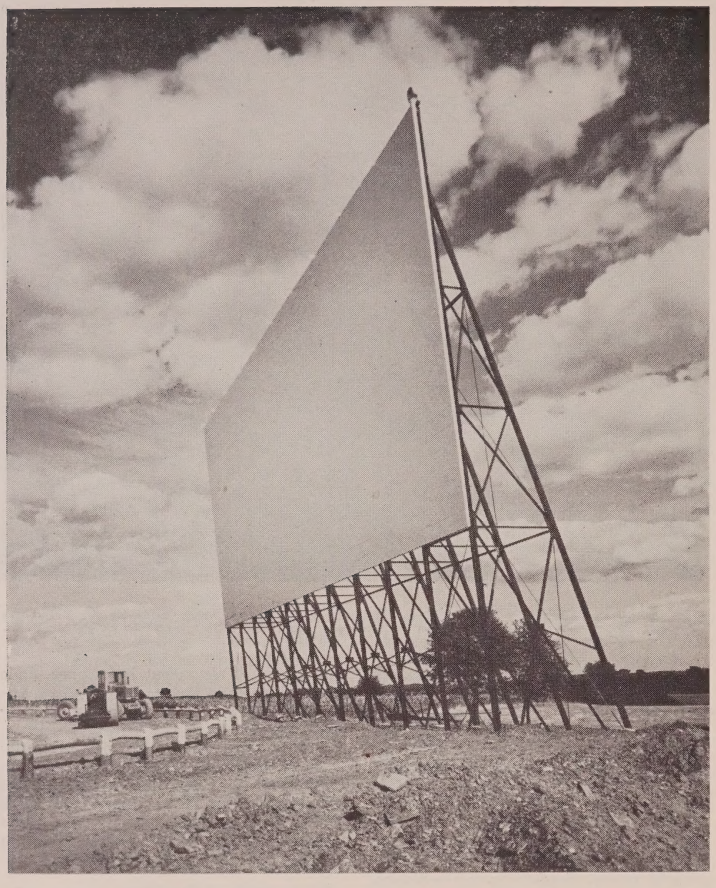
The drive-in theatre has joined the march to multi-purpose screens, so they too may effectively present CinemaScope and wide presentation of standard prints, and the new ratios of other releases. Such conversion demands careful study

In two states recent hurricanes made over 75 drive-in theatres inoperative, due to the cheaper type towers not being able to withstand the stresses imposed. Also several drive-ins were recently closed, due to their towers having been destroyed by fire. Many exhibitors are finding that it is too costly to extend their present towers, due to inadequate foundation and tower design, and are putting in a completely new tower.

An Individual Problem

The design and calculation of each tower and foundation should be on an individual basis and not on a production basis, where one model is supposed to fit all occasions. Before a tower is designed, many all important questions must be answered. Topography deserves every consideration; equipment limitations; the number of cars; projection throw; maximum viewing distance; sight lines, and efficient positioning of screen for maximum brilliancy of picture, are all very important pre-determining factors. The design of drive-in towers should be done only by competent engineers who are specialists in their field, having designed towers for several years.

To withstand the actual force exerted upon vertical surfaces of screen towers, by winds of various velocities, our steel towers are designed for a minimum of 30 pounds to the square foot with an ample addition of safety factor. The foundation design is such, to accommodate not only the calculated weight of the tower, facing and boxing, and to hold on extreme wind stresses, but also has ample safety factors added. These towers employ only I beam and angle iron steel members and do not use other types of tubular members, thus adding to the rigidity and endurance of their



A VIEW of the all-steel tower erected by DIT-MCO. This firm suggests an aspect ratio of 2 to 1, or 2.25 to 1 for the drive-in wide screen.

towers. A steel screen tower designed for your individual theatre is your assurance of continued operation, low insurance rates and minimum maintenance costs.

The steel screen tower in the drive-in at Somerville, New Jersey, furnished by us, is one of the largest in the country, having a picture size of 50 by 120 feet and an overall size of 75 by 120 feet. The tower was designed for this theatre by John & Drew Eberson, nationally known theatre architects and engineers, of New York City. Working closely with Eberson and Harry Appleman, owner, our engineers produced a tower to their specifications. This tower stood untouched by the storms.

Ratio Recommendations

For new drive-ins or those converting for the wide screen ratios and CinemaScope, our experience across the country has shown the most efficient ratio to consider is 2 to 1 or 2.25 to 1. Our recommandations are based on consultations with theatre engineers, architects and purchasing agents from every section of the country. For example, if the present picture size of a tower is 40 by 54, at 2 to 1, the suggested size would be 40 by 80, or at 2.25 to 1 it would be 40 by 90. This will give you efficient use of both wide presentation of standard prints and CinemaScope. We strongly urge every exhibitor to utilize every foot of available height.

Many exhibitors are of the opinion that only standard shop models of towers are available and must buy what the sales book offers. This is not so. Any size or style tower may be engineered to meet your particular requirements or specifications. The towers may be had flat or curved, vertical or tilted, according to your theatre's demands.

Within Reach

Due to increased production, improvements in design and engineering facilities, steel tower prices are now within the reach of exhibitors who normally would not consider steel screen towers. Also due to increased requests, towers are now priced delivered to the theatre, including the foundation and erection, and with or without facing.

Facing for the screen tower has been a difficult decision for most exhibitors. They have been confronted with claims of indefinite guarantees, maximum light efficiency, no maintenance, and all with costs equal to or greater than the tower. We are still doing research work for the perfect facing, and will not introduce it to the market until we feel perfection has been achieved. In the meantime, we have continued to furnish our steel facing, which we introduced several years ago, and of course in addition, APAC transite facing and marine plywood.

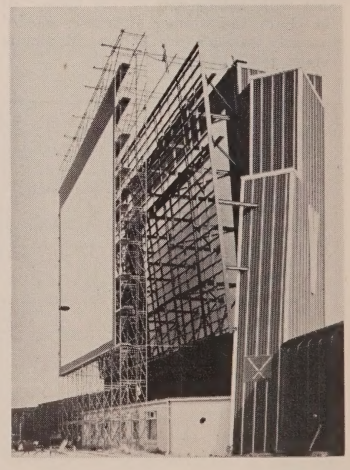
Proper painting of the facing of course is just as important as the facing and the all-important problem of whether to have the facing tilted or vertical. We agree that proper tilting does increase the light reflection to the viewer, however, tilting does increase the many angles of reflection to the viewer when the facing is wet, and presents an objectionable picture, whereas it has been found a vertical picture does not present so serious a problem when wet.

It is generally agreed in the trade, a steel screen tower, properly engineered, is the most economical tower, over a period of time.

MANCO-VISION

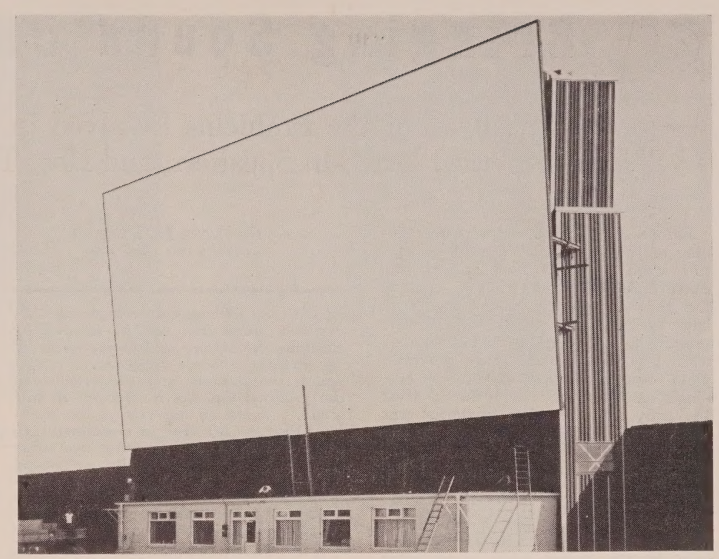
The Manco-Vision screen is a development and patent of the Motion Picture Research Council, and the result of approximately two years of experimentation and development on their part. The Research Council, working with the Aluminum Company of America and the Manco Plating Company, developed and created what we believe to be one of the greatest improvements in drive-in theatre projection in many years.

The surface of the screen is highly critical and took many, many months of research and development to produce a surface that, though highly reflective, still would contain certain diffusing elements that would prevent highlights or arc spots on the screen. Further, the control of color of the extruded aluminum panels was a highly critical development and required a great deal of experimentation.



A SIDE view of the first Manco-Vision screen being built at Victory Drive-In, Butler, Wisc.

A VIEW of the completed Manco-Vision screen at the Victory Drive-In using extruded aluminum.



Construction Features

The Manco-Vision screen is made of fluted aluminum extrusions, six inches wide, and six feet long, that interlock like flooring. These aluminum extrusions fasten to wood stringers by being screwed thereto with triple cadium plated screws every two feet. In a theatre where there is not in excess of a 45 degree viewing angle from the center of the screen, no horizontal curvature is necessary since the screen is so designed to deliver to every patron the same amount of illumination in an area as described above.

Curvature

A vertical curvature is preferable wherever the projection booth is not at least 400 feet from the screen. In such instances, an arc is scribed on a 400 foot radius, taking from that radius the portion of the arc that would represent the bottom of the screen to the height of the screen. This means, should the bottom of the screen be 20 feet from the ground and the screen was to be 50 feet high, you would select that portion of the 400 foot arc that would be taken from 20 feet from the ground to 70 feet. This means a very slight vertical curvature which does not require any special treatment at the factory as the extrusions, when fastened to the two by four stringers with the cadmium plated screws, will draw itself into the curvature.

The screen is said to positively deliver from any light source a 300 per cent increase in light over a white screen which has recently been painted, and as stated previously, this same light increase is enjoyed by everyone within a 45 degree angle from the center of the screen or theatre.

For proper functioning, the screen necessarily must be tilted and will require a very slight vertical curvature in some cases. The services of the Motion Picture Research Council are said to be available to furnish the drive-in theatre operator with all of the technical data necessary for preparing their screen tower to properly accept the extruded aluminum panels.

SELBY

It is important to remember that the "new look" of drive-in theatre screen towers is not only an increase in the aspect ratio size for CinemaScope, but increased size, curvature and tilt.

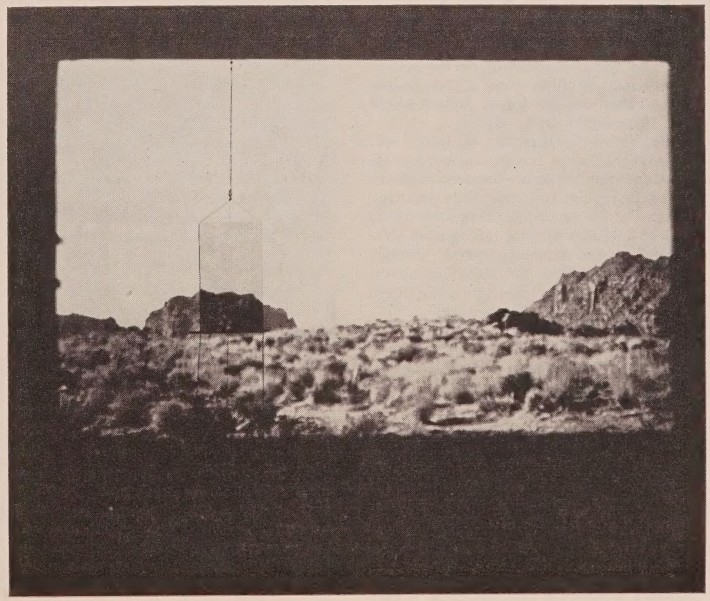
The major increase in picture brightness, which is so important in outdoor wide screen presentations, is achieved by concentrating reflected light projected to the screen, and back to the customers, by proper tilt and curvature of the screen tower. Tilting the screen to an angle equal to the projection angle, and curving to a radius equal to the projection throw reflects light to the area of maximum car density, rather than to the sky or to side areas. Curving is also important to achieve uniformity of brightness on the far side.

The value of directed reflection is greater with gloss surfaces. Flat diffusing surfaces, such as dead flat white paint, (when dry) require the least precision, but conversely, are the lowest in efficiency.

Optical Function

In designing and building a drive-in screen tower structure, a full understanding of its optical function is necessary, for the curvature and tilt of the steelwork forms the giant reflector surface.

The exhibitor must understand the need for a long enough throw in new theatres, but especially in rebuilding towers in old theatres it should be understood that the throw must generally be increased by locating the new tower farther from the booth in order to add the needed distance. It is for that reason that replacement towers built by us have always been located behind the old tower. In those outdoor theatres having a short projection throw, the widening of a screen in its present location may very well be limited by the focal length of the lens required to do excessive magnification.



A TEST showing a picture on the Manco-Vision screen with white paint being placed in center.

Bringing Sound Outdoors

An Analysis of the Problems Involved in the Construction of Practical Drive-In Speakers, and How They Were Solved

By DAVID B. WOLF
President, DAWO Corporation

BRIEF: *As with almost everything . . . there is much that can be learned by studying the history and development of the drive-in theatre speaker . . . This article presents an interesting review of the progress that has been made in this area . . . and an analysis of the problems that are involved in manufacturing and designing a speaker that will offer the patron a good quality of sound reproduction . . . and still be able to bear up under the rough treatment it is likely to receive at the hands of the public and the elements . . . The reader will get a good fundamental background as to what each of the component parts of the speaker are designed to do . . . and how they may be adapted to do that job properly . . . Anyone interested in outdoor theatre operation . . . will find this material of great interest.*

Before 1941, in the era of the beginning of the drive-in theatre when theatres were few and far between, the conveyance and presentation of sound to the theatre patron was not the most important item on the agenda of the theatre, but sound, good or bad, combined with a picture seemed to be the complete presentation necessary for an evening's entertainment. Immediately after the war, when wartime austerity was relaxed, and a flood of automobiles hit the public, the depression born drive-in theatre suddenly came to life. The drive-in theatre became a haven of comfort and entertainment to the family, a place to go and spend a few hours in the realm of make-believe, without the sameness of the living room night after night, without the expense and the worry of a baby sitter, with the kids falling asleep in the back seat, and with the comfort of a hot dog and a cold drink not always conveniently found in the refrigerator at home.

Growth Demands Improvements

With all the conveniences of the drive-in theatre, and with fast growing competition it was necessary for the theatre to begin to grow within itself. It was time to stretch, and to improve. Those trumpet speakers on top of the screen which served their need, even if the sound was not synchronized when the wind was from the back of the theatre, were no longer satisfactory. Progress must take its course and so the theatre grew, and either a single speaker on a post, or a crude set of in-a-car speakers, which were basically designed for the small home radio, and installed in a crude case of no design, was offered as the latest thing, along with 10-year old pictures.

The drive-in theatre continued to grow, with Palace fronts and poor presentation; the drive-in theatre industry not realizing the full potentials awaiting them. But a growing industry needs fodder, and the race began; better projectors, higher intensity lamps, greater capacity amplifiers, and better presentation of sound, and such was the birth of the drive-in theatre speaker.

Some Problems Solved

The drive-in theatre speaker had to be developed by trial and error. Many problems existed but the five major problems and their solutions as worked out by the Quam Nichols Company for the DAWO Corporation were resolved as follows:

PROBLEM 1. The rusting of surfaces around the voice coil which impeded and sometimes prevented movement of the coil.

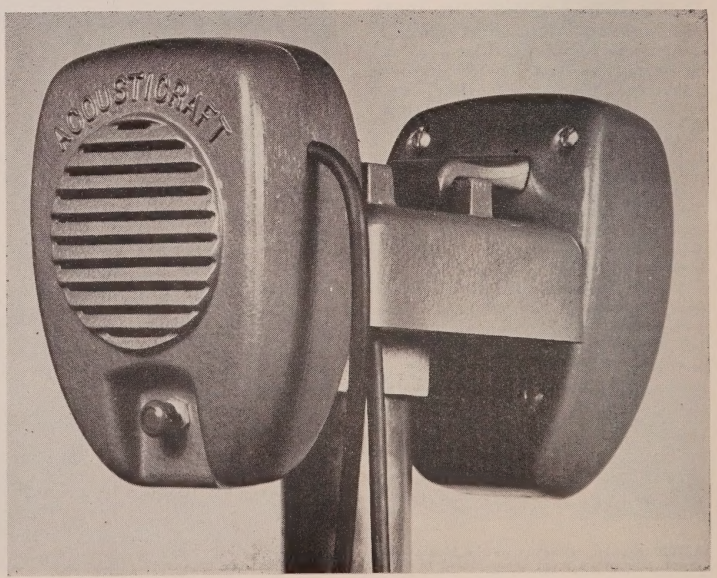
SOLUTION 1. Air gap surfaces are either double plated, or in the case of those used in the DAWO Acousticraft speakers, are plated and then painted with a varnish in which are suspended aluminum particles. This aluminum finish is fired at temperatures of 400 degrees Fahrenheit. Among other advantages, it has the quality of flowing into, and sealing any punctures in the plating. Rust or any other corrosion, except in the air gap is not worrisome as it will not cause any impairment or failure in the operation of the unit.

PROBLEM 2. The weakening or destruction of the paper cone and other parts by insects and fungi.

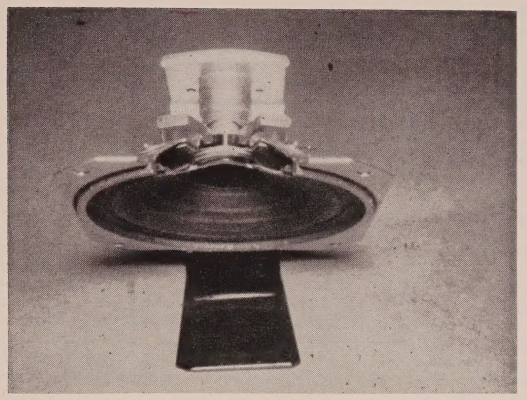
SOLUTION 2. All parts which might be deemed edible by a passing insect or strain of fungi are either eliminated or given a proper preventive treatment. As a case in point, it was discovered early in the game that the felt disk ordinarily used to seal the voice coil against dust was extremely appetizing to many insects, so this part has been replaced by a paper piece which is treated with a fungicidal solution.

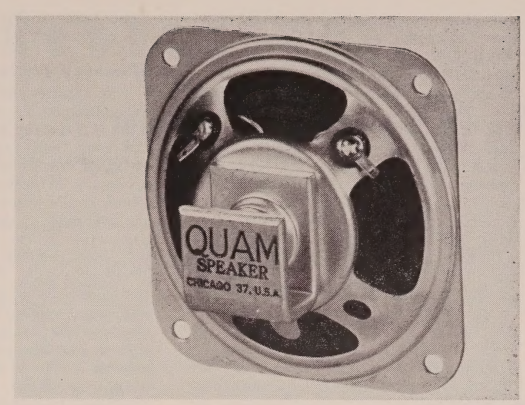
PROBLEM 3. Mechanical damage through more punishing treatment than that encountered in home receivers.

SOLUTION 3. Since speakers are more often than not dropped by the theatre patron from car window height to the hard surface of the theatre the magnet and pole piece must be soldered into the structure in such a way that the speaker will take the conventional four foot drop test without altering the alignment of the parts. Furthermore, the voice coil should be perfectly positioned in the magnetic gap at the time of manufacture so that a slight distortion of the metal frame can be tolerated.



MODERN drive-in speakers, such as the one seen, had to be developed by trial and error in order to create dependable and economical devices.





A CUT-A-WAY view (left) of the Quam Nochols adjust-a-cone speaker that is used in the DAWO line of drive-in speakers. A view of the speaker (right) from the rear is also seen. These speakers were designed to eliminate the five major problems which stood in the way of constructing a good speaker.

PROBLEM 4. Inadequate dustproofing.

SOLUTION 4. Dustproofing, as accomplished for speakers used in the home, is not adequate. A filler must be applied around any joint which is even suspected of not being completely sealed. In the case of the DAWO Acousticraft speakers this seal is accomplished through the use of the aluminum varnish which flows into even the slightest crevice. Here again, the use of the paper disk instead of the felt disk is advantageous because felt is coarsely woven and will pass fine particles which accumulate and cause an impairment of performance.

PROBLEM 5. Distortion and deterioration of the cone and voice coil.

SOLUTION 5. The cone must be given a treatment which will cause it to resist the absorption of moisture. This treatment necessarily represents a compromise because a too extensive application of the solution has an adverse effect on sensitivity and response characteristics. If the treatment is properly made, moisture absorption is held to a minimum and a high quality of performance is preserved. A fungicidal agent is incorporated in the moisture resistant treatment. Here again, a means of adjusting the position of the voice coil in the magnetic gap proves of great advantage. If the coil is precisely positioned by the loudspeaker manufacturer, slight lateral movement of the coil due to moisture absorption and subsequent expulsion will not cause it to rub against the sides of the gap.

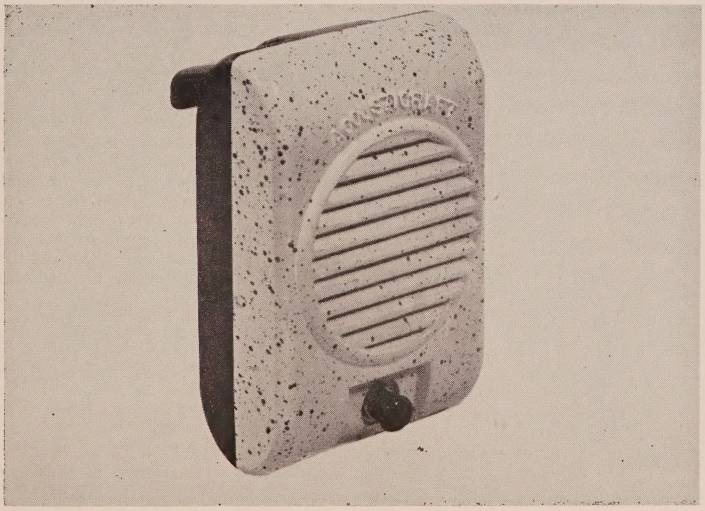
Progress Made

A great deal of progress toward the elimination of these failures has been made in the past six or seven years. None of the problems would have been difficult except, as is so often the case in design engineering, corrections had to be made without increasing the cost beyond the ability of the theatre operator to pay, and without degrading performance below the standard of the radio receiver in the listener's home. The speaker had to faithfully reproduce frequencies up to 8000 cycles as some of the programs in the theatre were musical. If only voice range had been required the problem would have been much simpler.

Sound is the vibratory disturbance of the air that surrounds us, and any air wave projected into the surrounding atmosphere falling within the limits of the human ear are known as audible frequencies. The range of the audible frequencies are from 20 to 20,000 cycles. However, a study of the frequency range of the various units used for sound reproduction in the theatre indicates a range of 50 to 6,000 cycles, and the range of the motion picture sound track to be 0 to 8,500 cycles. Based on these established ranges the drive-in theatre speaker is designed for a frequency response up to 8,000 cycles. It has been established that the human ear can definitely discern 13,500 cycles, but it must be kept in mind that the amplification of sound is not maintained at a constant level from 0 to 8,500 cycles, since it requires five times as much amplification to produce a note of 100 cycles at a given sound level than is required to produce a note of 4,000 cycles at the same sound level. Similarly, it requires twice as much amplification to produce a note of 13,500 cycles at a given sound level than it does to produce a note of 4,000 cycles at the same level. At the present time the type of amplification necessary to produce high fidelity sound for the drive-in theatre is not available, and if it were, a better system, such as tape recordings which were recently used, would have to be made available in place of the present sound track now being used. For the average listener the correct reproduction of sounds having frequencies between 50 and 5,000 cycles is considered acceptable.

Basic Cone Construction

Basically all speaker cones are formed or molded of paper pulp, not because paper is the best material insofar as



THE TYPE of material to be used in the speaker case is important. The one seen here was made by the sand casting to give it greater strength.

durability is concerned, because by whatever method you treat paper cones whether with wax or silicones or other chemicals, the cone is still the equivalent of blotter paper and subject to deterioration, but paper is used because of the lack of harshness in sound transmission and because of its flexibility at all transmitted frequencies. In the past years of radio work many attempts were made to find a substitute for paper cones. Some radio speakers were made with stiff paper cones combined with soft flexible leather to act as the cone travel agent connecting the paper cone to the speaker basket. Later metallic cones were tried but were not successful due to the high fatigue failure of the metal. In all instances the sound reproduction was very poor because of the inability of the cone to transmit base frequencies.

During the war Phenolic cones and other substitutes were used in the design of speakers and were theoretically blast-proof. However, in order to build a blast-proof speaker by these means quality was sacrificed and the speakers were adaptable only to voice transmission.

In the designing of the drive-in theatre speaker since the war, several attempts were made to produce a durable long lasting cone of phenolics and of cotton and nylon filled phenolics quite unsuccessfully, at the reproduction qualities of the speaker suffers from the basic lack of flexibility as is found in the paper cone.

Efficiency Factor

The relative efficiency of a speaker depends upon the maintaining of a minimum of weight of the voice coil and the cone, and the flexibility of movement of the cone, these factors being necessary in order to overcome inertia, which is the process of the starting and the stopping of the speaker cone in the completion of the sine wave constructed by the frequency being transmitted. Therefore, since it is good practice in the construction of the speaker to let the mass weight of the cone equal the mass weight of the voil coil, any addition to the speaker which would throw this ratio out of balance, or would add weight to either the voice coil or the cone would have a detrimental effect on the efficiency of the speaker.

From time to time plastic covers, perforated materials or other additives for the theoretical protection of the speaker have been added to drive-in theatre speakers, and have tended to decrease the efficiency of the speaker by interruption of the air column. This has made it necessary to increase the weight of the magnet of the speaker in order to overcome the additional back pressures which then creates an additional cost without increasing the efficiency.

SPEAKERS should be mounted in the case in such a manner as to prevent warpage of the basket. Case should also supply protection from weather.

A speaker operates primarily by the projection of sound waves in an air column. This column which originates at the speaker cone carries the sound waves, and the less obstruction and the less additives used naturally will allow the speaker to operate at a much greater efficiency. However, at the same time that we maintain the air column at the front of the speaker cone we must relieve the pressure of the air at the back of the cone. Since air is compressable and has the tendency to back pressure itself, this can be accomplished in several ways; primarily by having a large acoustical chamber properly designed, which is the speaker case, or in the design of the drive-in theatre speaker where the size of the case is limited, it is necessary to have pressure relief holes in the case in order to overcome the back pressure generated by the speaker. Basically this means that the air pressure behind the cone should not be greater than the air column at the front of the cone. The use of these holes, which are sometimes referred to as bass ports, obviously increases the bass response of the speaker. However, this obvious response is due to the reduction of pressure at the rear of the speaker cone, where it has had a cushion effect, rather than by any magic formula.

Speaker Case Design

In the design of a speaker case for drive-in theatre use, consideration should be given to type of material used and the acoustical chamber. We have found sand casting to be the most desirable material primarily because of its greater strength and molecular structure and without the obvious deterioration of other types of material. The speaker should be mounted in the case in such a manner as to prevent warpage of the basket of the speaker and with due consideration being given to the obvious possibility of the dropping of the speaker, this can be attained by spring mounting rather than by four corner screw mounting.

Weather Protection

It has been found by continuous study that the more a speaker is protected from the sun and from the elements, the greater the life of the speaker. However, in affording this protection to the speaker it is necessary that the quality of the sound not be affected by being unnecessarily muffled. This protection can be afforded by the use of overlapping louvres in the original case design, or it can be given by a combination junction box and speaker compartment, both of these methods making the original cost of the speakers much higher, but reducing the continual servicing in the field.

To recapitulate, today's drive-in theatre speaker is at its best, and while there are still many problems to be solved, the benefit will go to the drive-in theatre owner who today can buy his speakers based on his own fancy as to shape, size, color, and price.

A Drive-In Restaurant

A Description of the Equipment, and Operation of a Drive-In Restaurant Which Can Add to the Revenue of Outdoor Theatres

Ever since drive-in theatres were first built, their owners have been casting about to find a way in which their business could be increased in both night and day hours.

Realizing that often the net return from concession stand operation was actually as great, if not greater, than the net revenues from ticket sales, a number of alert theatre owners have often doubled the size of their concession stands to increase concession business.

Many drive-ins are located on heavily traveled roads and many of the passing motorists, while not potential theatre customers, are potential lunch and dinner customers both night and day.

Increase Revenue

These passing motorists represent an opportunity to materially increase the revenues and profits of the drive-in theatre, either by building a drive-in restaurant on the theatre's roadside property, or, if feasible, relocating and increasing the size of the present concession stand, so both theatre and passing partons may be served.

Drive-in restaurants are popular, and a well located and equipped drive-in restaurant can produce business and net profits that are really startling.

Many outdoor theatre owners have inadvertently created some very fine business for beverage stands, frozen custard stands, and other drive-in restaurants located adjacent to the drive-in.

BRIEF: *The drive-in theatre owes much of its success to the fact that it can offer the patron a great variety of services . . . and facilities . . . The important role played by the concession stand in the operation of a drive-in indicates that this area could be further expanded . . . One of the true pioneers in the manufacturing of theatre equipment recently introduced the equipment for a drive-in restaurant which could very well be integrated into a drive-in theatre . . . With the information furnished by the manufacturer . . . this article describes how the system may be adapted to theatre situations . . . what equipment is required . . . how the system operates . . . maintenance procedures . . . etc. . . . This article could be of particular value to the reader who is contemplating building a new drive-in . . . and could make provisions to incorporate this drive-in restaurant with the rest of the project.*

Why shouldn't the drive-in theatre owner make these big profits from sales of drinks and food to its own patrons and passing motorists?

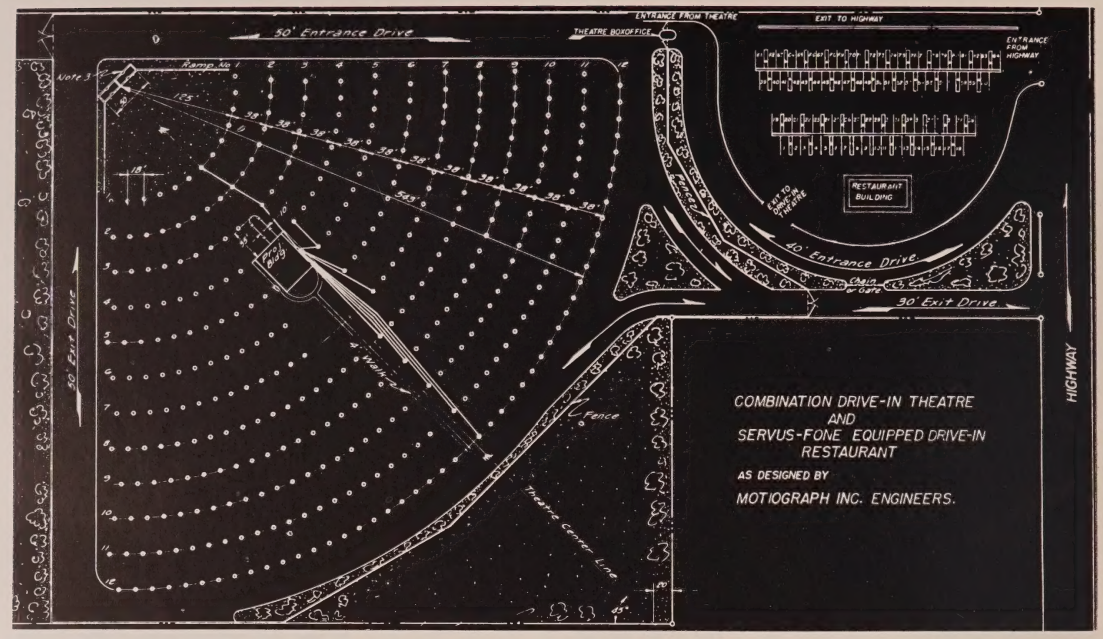
It is true, of course, that a drive-in theatre creates a traffic problem in itself, but that problem is really an intermittent one so the increased traffic in and out of a drive-in restaurant located on theatre property would not represent a problem as much as it would a great source of profit.

A drive-in restaurant to best succeed must have a rapid customer turnover. They must offer speed of service; that is where Motiograph's great new product, Servus-Fone, comes in.

Telephone-Music System

Servus-Fone is a telephone and music system for drive-in restaurants. When in use, the patron parks at one of the system's serving stations located outside the drive-in, reads the station's illuminated menu, presses a button on a convenient two-way speaker, and places his food order with the drive-in's switchboard operator. When the speaker is not in use for communication it automatically plays music from high fidelity sound equipment.

THIS ILLUSTRATION shows a typical drive-in restaurant equipped with the Servus-Fone system. This type of operation can very easily and logically be incorporated into a drive-in theatre's operation. This would result in an increased amount of revenue from the concession operation, both day and night.



THE DIAGRAM (above) indicates exactly how a combination drive-in theatre and drive-in restaurant may be constructed. With this Servus-Fone system the attendant (below) makes a minimum number of trips.

Servus-Fone reduces the carhop's trips from two or three to one visit per car. The carhop delivers the order and collects the bill in one trip, and if a bus boy is not available, she also clears up the convenient table at the serving station. At least 50 per cent fewer carhops need be employed, and, as service is much faster, many more patrons can be served without increasing restaurant capicity. As orders are relayed to the kitchen in the order received, all patrons receive equal attention — thus gaining customer goodwill.

The attraction of a drive-in restaurant could conceivably increase the theatre's patronage, just as the attraction of the theatre could make possible a highly profitable drive-in restaurant operation.

Equipment

The basic Servus-Fone equipment for a 40 car capacity drive-in restaurant consists of the following:

One walnut switchboard cabinet 36 inches wide, 60 inches high, and 18 inches deep which contains two speech amplifiers; one high-fidelity music amplifier; one power unit for relays and indicator lights; one switchboard with two panels, each with 20 three-way keys and 20 indicator lights; one Webcor three-speed multiple record player; two operators' headsets; two combination monitor speakers and microphones; one auxiliary microphone with stand and switch; one switch providing for single or dual switchboard operation; one volume control for the music amplifier, and two each for the two speech amplifiers.

In addition there is provided a switch on each side, making for communication either with the headset, or with the combination monitor speaker and microphone; one chime and cut-off switch; two switches for menu lights. The 20 two-car capacity serving tables include 40 "Rainmaster" speakers with coiled cords and push buttons; 20 double-faced lighted plexiglas menus and holders; two "Rainmaster" speakers for the kitchen.

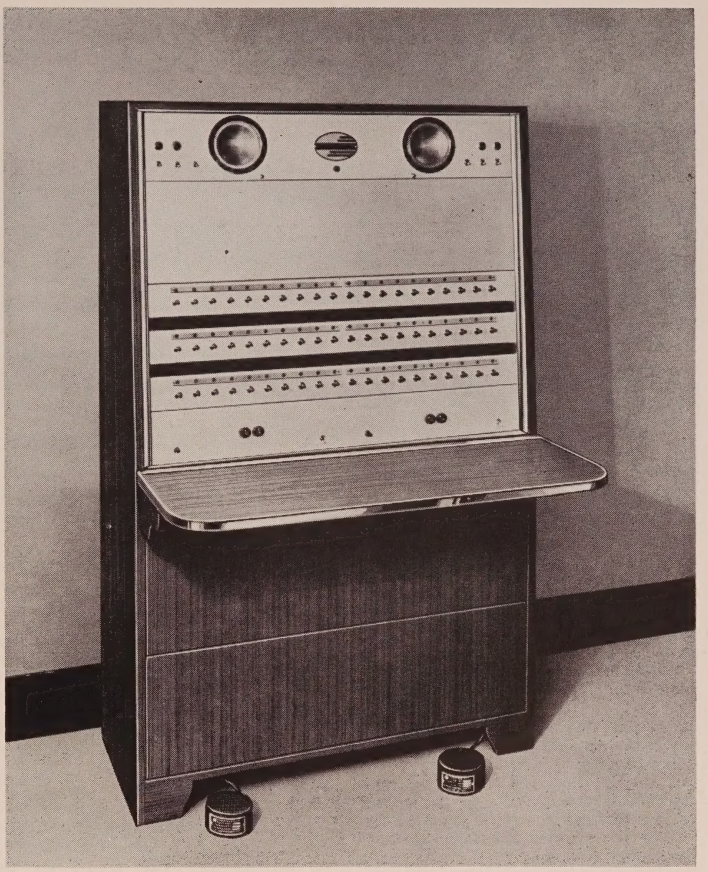
The basic 40 car capacity system may be expanded to 60, 80 or 100 car systems by the addition of one, two, or three additional switchboards and the needed serving tables and their attachments.

Operation

Each speaker has a button which when pressed, just once, operates a position indicator light on the switchboard. When the operator moves up the station key she may answer the call while automatically shutting off the music from that particular speaker.

At most times one operator can handle all the incoming calls to the switchboard. At larger restaurants during extremely busy periods, a flip of a switch converts the board to dual operation so two operators can handle incoming calls. When the operator is away from the board, a chime calls attention to incoming calls. Calls can be received either through a headset or through one of the two combination monitor speakers and microphones. When the operator is receiving an order, it is also simultaneously heard in the kitchen through a speaker. The chef can thus start preparation of the order prior to his receipt of written instructions from the tele-

THE heart of the system is this walnut switchboard which contains all essential equipment necessary to send and receive patron's orders.



phone operator. Another kitchen speaker can be used as communication equipment between the chef and operator.

The operator may make announcements to all patrons through the auxiliary microphone without lifting all the individual station keys. Provision is made for the connection of a tape recorder or radio if such auxiliary equipment is desired.

Operator's Duties

When one operator only is working and a call is received, she should lift the key to the up position and then depress either the press-to-talk switch, or its footswitch equivalent, so she may talk to the patron. When she listens to the customer, she releases the press-to-talk switch.

As the operator prefers, she may listen and talk through either one of the two combination monitor speakers and microphones or one of the two operator's headsets. Announcement to all speaker stations must be made through the auxiliary microphone.

When two girls are to operate the equipment, the dual operation switch should be switched to "D," both speech amplifiers should be turned on, and both combination monitor speakers and microphones should be shut off. All calls coming into the left or red side of the board should be answered by one operator, and all calls coming into the right or black side of the board should be answered by the other.

When two calls are received simultaneously, the operator should raise the key under one lighted indicator light and say, "Just one moment, please," and then she should push the key all the way downward to the hold position so that the call can be completed after she has taken care of the other one. The operator, or operators will, of course, check off the patrons' orders and relay them to the kitchen.

FOR THE small operation, or when business is slow only one operator is needed at the board.

FOR PEAK business hours, the switchboard can accommodate two operators to handle the calls.

THE BOARD is equipped with a record player, and patrons may listen to music while eating.

Installation

A drawing of the lot should be made so that parking spaces may be laid out to their maximum number. Car spaces should be arranged in pairs, each of the pairs should provide an area nine feet wide and 18 feet long. The locations should be three feet apart to provide room for the station table—the table is 33½ inches long and 16 inches wide—but room must also be left for the serving tray and access by the car hop. A distance of at least 21 feet should thus prevail between table centers. In length-

THE popularity of drive-in operations of all types is well known, and the drive-in theatre operator could do as well as the location seen on the left.

wise direction, a distance of 35 feet, or preferably 38 feet should prevail from the front of one parking space to the front of the space immediately behind to permit easy parking.

Switchboard Placement

The switchboard, which occupies a floor area of 36 inches wide and 18 inches deep, should be located at a point within the restaurant where the patrons' orders may be manually passed on to the kitchen. Space should be allowed from the operators' chairs and for access to the back of the switchboard. Provisions should also be made so that incoming cables may come up through the bottom of the switchboard cabinet.

Table Supports

Tables should be supported by a 56 inch long, one-and-a-half-inch diameter pipe with one threaded end, of which 36 inches should be mounted above the surface. The 20 inch balance of the pipe length should be mounted in two 8 by 8 by 16 inch concrete blocks imbedded two inches below the surface.

The bottom block should be laid and the earth filled in and tamped level with the top of the block before the other is laid, so that the top block is evenly supported. After setting the post, all holes in the blocks should be filled with concrete.

Wiring to Tables

An eight wire neoprene or plastic covered cable, terminating at the switchboard, should go to each station table. In wiring, the cable should go up through the pipe to the terminal strip in the cabinet of the table. An 18 inch loop of cable should be left at the bottom of each post to prevent breakage of cable in the event the post should be knocked over.

The cable sheath at the table end should be trimmed away six to eight inches from the end, and insulation removed three-eighths of an inch from the end of each of the eight wires. The wires should be tinned before connections are made. At the switchboards end, the sheath should terminate near the bottom of the cabinet.

Cable should be imbedded at least 18 inches below the ground surface. The Servus-Fone system provides for the use of 28 volt light current to the menu, which makes it possible to run speech and light currents through the same cable.

In most localities there is no necessity for this cable to be placed in conduit, though municipal or state electrical codes must be checked for such requirements.

Maintenance

The switchboard, with all its components is, of necessity a complex piece of electronic equipment, though particular care has been taken to make its installation and servicing as simple as possible.

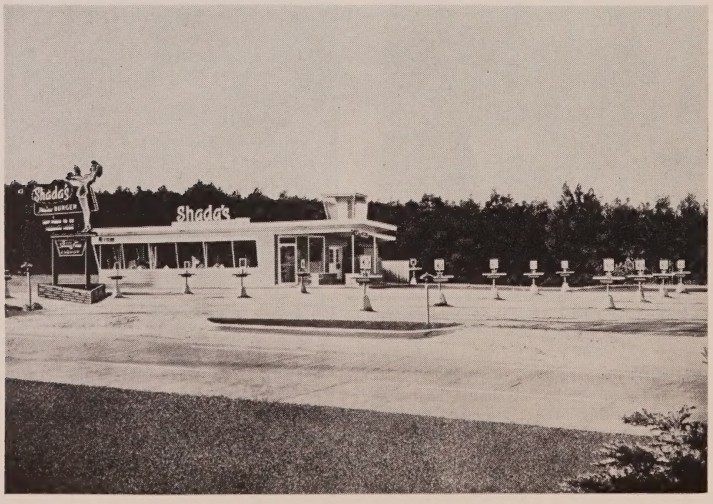
It is suggested that the owner make arrangements for periodic service calls by a competent radio man or theatre sound system engineer to check the equipment. If regular inspection is made, and weak amplifier tubes are replaced, and wiring connections are checked, there should be no reason for interrupted equipment operation.

Lamp failures in the switchboard, or in the lighted menus can be remedied by anyone who can screw in a bulb. Replacement of lamps in the four pilot lights on the top panel is made by unscrewing the lens. Use GE #1829 lamps for replacement of all lamps in the entire system, except the call indicator flashing lights where GE amber #47 lamps are used. To replace a lamp in the switchboard section, slide the entire lamp toward the rear of the cabinet, off the notched upper section of the chassis. Always disconnect the a.c. plug on the power unit before attempting lamp replacement.

To replace lamps under the menu, loosen the screw at either end of the menu base and tilt the socket supports down.

In the event of tube failure in one of the two speech amplifiers, operation may be continued by switching to single control and using the other speech amplifier.

If a speaker ceases to operate, but all the others operate normally, the trouble will usually be found in the speaker itself. It is relatively easy to change speakers.



THIS drive-in restaurant is equipped with the basic Servus-Fone system designed to handle 40 cars. Larger units are available if needed.

Screen Tower Comes Of Age

A Review of the Changes That Have Taken Place in Construction of Drive-In Screen Towers, and What Goes Into Today's Designs

By JOHN SELBY
Vice-President and General Manager
Selby Industries, Inc.

BRIEF: ***It is not surprising that with the growth and development of the outdoor theatre . . . that the design and construction of the major areas of the drive-in have also grown and undergone changes . . . In the past few years the screen tower has changed its shape to keep up with the public's acceptance of the wide screen form of film presentation . . . This article . . . prepared by one of the pioneers in this still relatively new field . . . goes into detail about many of the basic design features of the screen tower . . . as well as what the latest thinking is on constructing the tower for today's drive-in . . . In addition to a good deal of data about engineering and practical considerations . . . the author also gives his attention to such matters as the appearance of the screen from an aesthetic point of view . . . The problem of curving and tilting is discussed . . . and the very important subject of tower strength and resistance to such things as wind storms is also covered.***

Paralleling the amazing growth of drive-in theatres across the nation during the past decade, the screen tower itself, dominant feature of the outdoor theatre, is exhibiting a vital growth. The structure has come to maturity, and is exhibiting the logical and desirable characteristic of its new coming of age.

Towers Different

Screen towers in well-planned new drive-ins today, and in the older theatres which are necessarily replacing the smaller, cruder early screens as the industry continues its sensational technological advance, are different. They have become massive in size, towering dramatically over the landscape; and at the same time they are surrendering much of the early structural ornamentation, and have become functional and streamlined. In this they follow the dominant trend of modern taste in the arts and architecture alike.

The trend is definitely away from the older idea of boxing in the street or road side of the tower—when the screen tower backs to the street as it commonly does, though far from always. There are two chief reasons for this new trend:

The increase in size of towers has made the cost of such special boxing prohibitively expensive. Screens today are being built up to four times their former size as the result of CinemaScope and the demand for a new and larger picture size.

The construction of such special boxing may equal that of the screen tower itself in cost, our experience shows—and it is a sound economic move to eliminate it if possible.

The increased knowledge and experience in screen tower construction have made possible the successful elimination of the need for such boxing construction. The design of towers has been progressively refined, and today it is entirely feasible to make the bare steelwork itself aesthetically pleasing to the beholder, and at the same time to achieve adequate strength in all directions of stress.

That aesthetic aspect cannot be underestimated—it is vitally important. Out of 47 towers we have built in the past two seasons, only one was boxed—and we think it was the least pleasing of all in appearance. However, a successful compromise has been achieved in other instances through partial boxing, as in the recently-opened Vista Drive-In for Butterfield Theatres chain, Grand Rapids, Michigan.

Boxing Defined

Let's define boxing as the complete enclosure of the structural steel members with some type of plain surface—together with the subsequent decoration of that surface with some type of architectural embellishment — ribs or panels, or pictures. Note how the trend in modern architecture is toward the frank presentation of the basic structural members of a building, without the concealing surface which was long popular.

Partial boxing can be achieved by the enclosure of the vertical steel trusses individually. When this practice is adapted, it is highly important that the back of the screen surface be attractive in appearance. The surface must not be cluttered with the furring strips often used. And the area between the trusses must be free of both diagonal and horizontal braces, allowing clean vertical lines to predominate.

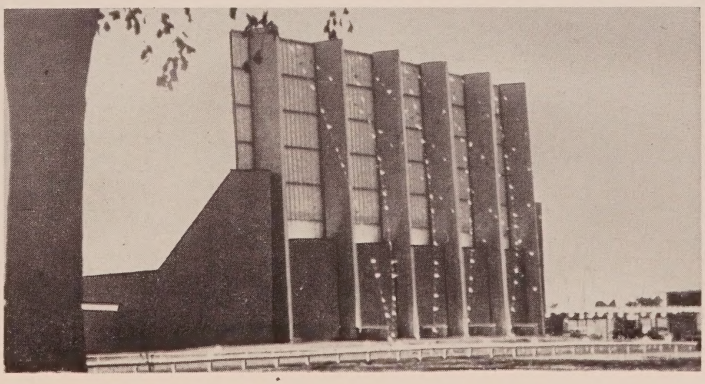
Design Selection

The selection of a design which will combine the requirements of aesthetics with structural strength is necessary. This we have done through the use of a triangular box truss as the main vertical member, spaced 21 feet apart to require fewer lines. These trusses are braced internally, eliminating the need for inter-truss bracing and diagonals, which are objectionable to pleasing appearance.

The result is that the clean lines of the three main vertical elements of each triangular box truss, combined with the repeated pattern creating a uniform zigzag diagonal effect of the internal bracing, creates a very pleasing total effect. This is a rather lacy, airy, light, effect, which is aesthetically satisfying.

Color Scheme

The trusses can be woven into the total decorative scheme of the theatre, through the careful selection of a color scheme. Usually a contrasting color, selected to provide an effective divergence from the background of the screen tower, is best. Typical color schemes which have proved quite successful have included a flat black on all structural steel members, against a bright yellow background on the back of the screen tower; burnt orange steelwork against a yellow background, and yellow steelwork against bright red. The limits are set only by the owner's or designer's imagination and taste. One unique installation in a Norfolk, Va., drive-in, which has proved highly successful is an over-all bright gloss white, on both the steel and the background.



TODAY'S modern drive-in screen tower requires a design that offers clean lines that please and also provide the necessary structural strength.

Tilting and Curving

Towers, despite all changes in their other characteristics, must continue to be suitably tilted and curved. It is surprising, despite all that has been said and written on this subject, to still find an occasional drive-in builder erecting a tower on straight lines. Basically it is a matter of the laws of optics, and the essential purpose is to reflect light to the audience. There are minor secondary advantages as well, in improving keystone and focus.

With the coming of a new technological development in Todd-AO, drive-in owners should consider the need for very deep curves—and that can mean a depth of bow at the center of 25 feet on a screen of 100 foot width. However, it must be realized that such a screen will not be successful if used with standard film as we consider it today, but will be compatible with CinemaScope in wide positive prints (approximately 70mm), as well as with Todd-AO product.

Tilt of the tower can vary considerably from one theatre to another, and must be designed to meet the requirements of the specific location. This is a factor that the builder of a factory-built tower must consider, creating a custom job for the exhibitor.

Some projection booths have been built four feet off the ground, eliminating the possibility of interference from cars placed in front. Others have been placed on the second floor of the concession building. And there is also the side-of-the-mountain type of theatre, where the theatre itself is tilted, rather than the screen.

Secondary use of the tower area is becoming largely a thing of the past. Living quarters for personnel, offices and service quarters have been located in the tower area in many drive-ins. But much difficulty has been encountered in adequately waterproofing such structures.

One use of the tower area that may continue to be satisfactory is for the electrical distribution room, where the service entrance is brought to one of the trusses, and carried down to this entrance point.

Tower Strength

The finest screen tower ever erected cannot be given an absolute guarantee against damage in any conceivable windstorm. We have become more conscious of wind problems in recent years, justifiably. The designated tower strength includes an elementary calculated risk and the ultimate protection for the exhibitor is a function for the insurance company.

Calculations can be based upon the most firmly established engineering principles and charts — but the final proof of their success lies in the successful withstanding of the most severe windstorms encountered over a period of years. The most severe storm our own construction has met proved an ideal test of our calculations. This was in a drive-in at New London, Conn., when the tower resisted the impact of the hurricane "Edna" with winds officially measured at 125 miles per hour.

Even though a tower may be calculated and designed to stand under such wind conditions, it is not finally known that it will do so, until they are encountered. So there is a good basic reason for using a proved type of design, which has been tested in similar installations elsewhere. In contrast, we know of a screen tower, the first drive-in project to be planned by a structural steel engineer, which blew over under only heavy gale conditions.

While it would seem that screens have about reached their maximum width today, experience shows that it is a very good idea to leave plenty of working room for expansion around the tower. It was formerly a common practice to place boxoffices, driveways, offices, and wing fences close to the tower — and this has created some genuine problems when the screen had to be enlarged. The area around the tower should be left as uncluttered as possible, allowing for any possible future developments in this still fast-changing industry.

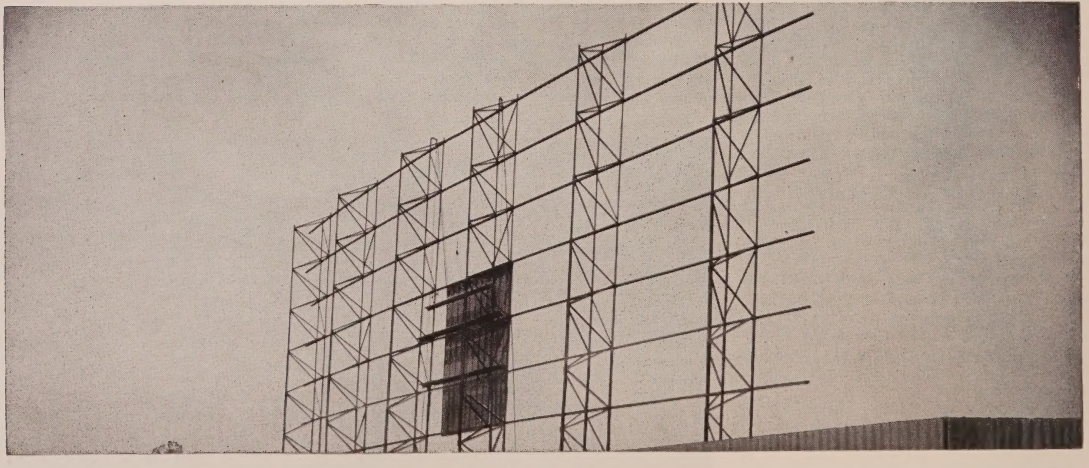
Some exhibitors started with a 50 foot screen, then widened it a year or so ago by the addition of a 15 foot section on each side, to 80 feet. New ramps have been added perhaps, and the theatre enlarged. And today an 80 foot screen seems small. The lesson is to leave plenty of space for growth.

Screen Size

A word about desirable screen size is in order. A year ago, the most common width for large new drive-in construction was 100 feet. Already that is almost outmoded, and 121 feet is the common standard today—and, in our experience, many are interested in 142 feet.

There is a present limitation imposed by the basic requirement of having enough light thrown upon the screen. This is very well satisfied with the 121 foot width, and fairly well so in the 142 foot, with still further improvements through various means still to come.

Because the screen tower is so basic to the success of the drive-in, the entire project of a tower, from design through manufacture and erection should be in the hands of a single responsible firm or individual. If the designer has his own fabrication shop, he will have adequate control over the quality of the materials and of the welding. In such cases, the designer knows that every weld and every piece of metal must be of top quality, and that each must bear the weight of his own professional responsibility. But the designer who turns such work over to a subcontractor does not have the personal assurance of quality. The welder, for instance, does not take the same personal interest in the project that the man responsible for its ultimate success or failure must do. The exhibitor's best course is to select his builder carefully for professional competence, choosing the firm that will carry out the work from drafting board to opening night under its own direct control.



THE SKELETON of a screen tower is seen, and it can be noted that it is to be used for wide screen film presentations. In erecting a tower it is very important to leave sufficient room for further expansion, as it appears that when light problems are solved tower widths will continue to expand.

Highway Salesmanship

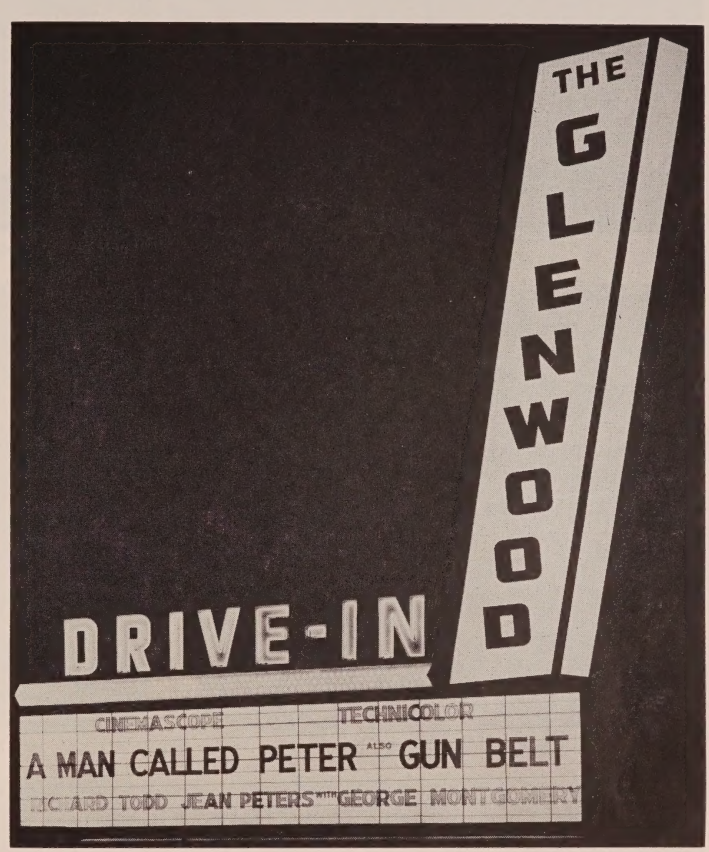
An Examination of Some Interesting and Outstanding Examples of Drive-In Signs and Letters That Help to Create Business

With automobile registrations reaching all-time highs, and with no end to the upward spiral in sight, the American family car is becoming a living-room on wheels. And every new automobile on the highways represents another potential patron for the nation's drive-in theatres. However, as with all the other branches of the entertainment industry, the public must be sold on going to an outdoor theatre. It is in this area that the roadside marquees and signs become extremely important in their role of highway salesmen.

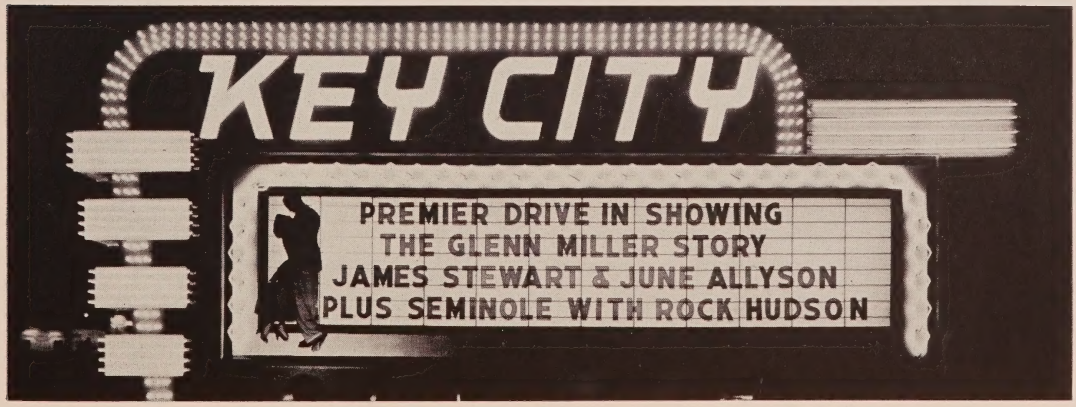
As drive-ins have become bigger and better so have the attraction boards, signs and letters. Today's modern outdoor theatre uses its marquee not only to inform the public of what is being shown, but also to do a good deal of the ticket selling job. Cascades of shimmering lights, colorful and distinctive designs, large readable letters are combined to create an overall impression that will please the senses of the passers-by, and make them much more willing to accept the invitation to enter and spend an evening at the drive-in.

The value of making full use of roadside signs and letters cannot be underestimated by the alert drive-in operator. Fortunately, the manufacturers of signs and letters have been keeping stride with the progress that has been made in outdoor theatre design and operation.

Pictured in this article are some examples of interesting approaches to informing and attracting the car-conscious public. The shapes, forms, and effects are limited only by the imagination. With the cooperation of the sign and letter manufacturers, the operator of a drive-in can create a roadside salesman that is distinctive, and reflects the exact mood or impression desired.



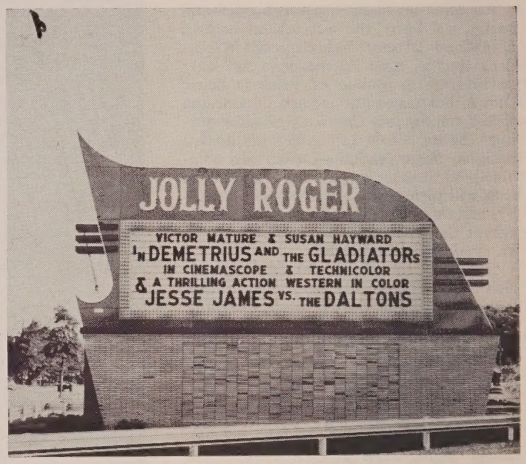
GLENWOOD, ATLANTA, GA. (Wagner Installation)



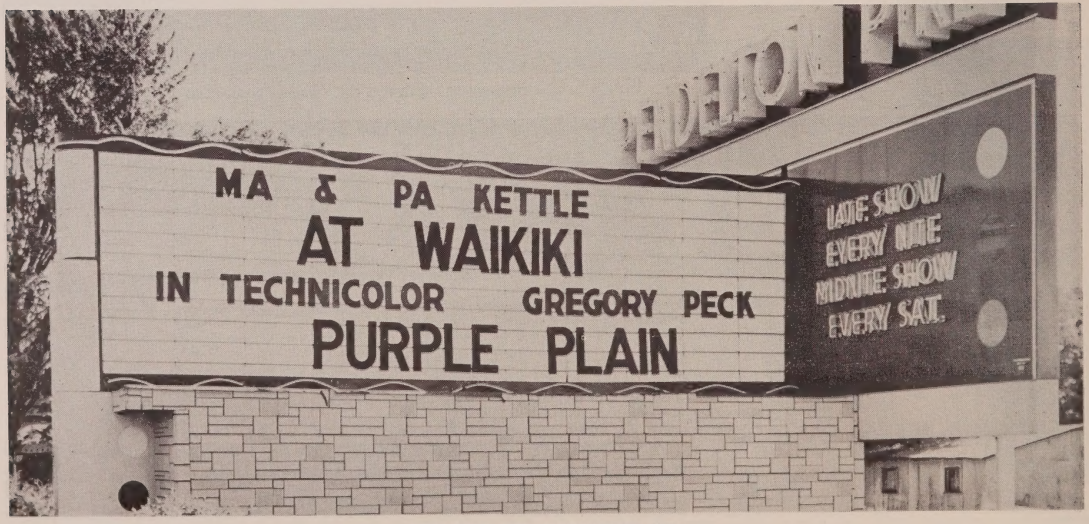
KEY CITY, ABILENE, TEX. (Wagner Installation)

MIRACLE MILE, TOLEDO, O. (All photos on this page from Wagner Sign Service)

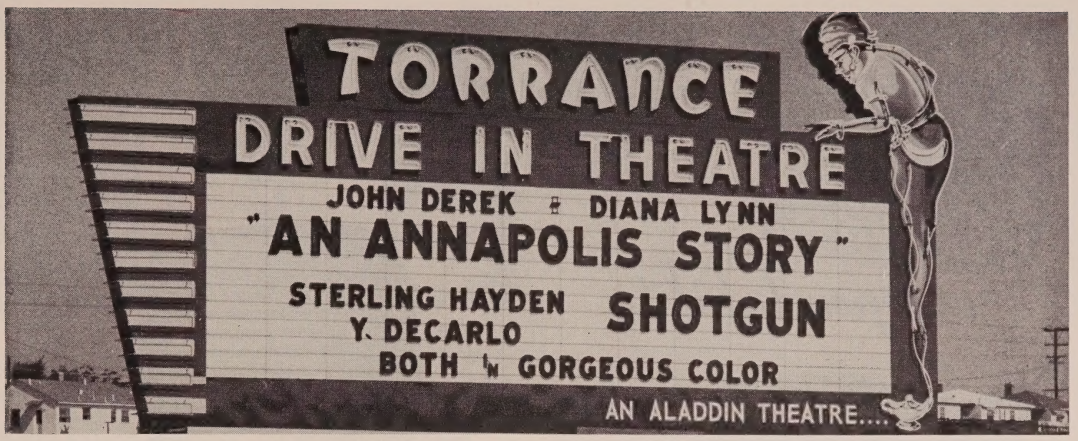
NORTH AVENUE, CHICAGO, ILL.



JOLLY ROGER, DETROIT, MICH.



PENDELTON PIKE, INDIANAPOLIS, IND.



TORRANCE, TORRANCE, CALIF. (All photos on this page from Adler Silhouette Letter Co.)

NORTHERN, PHOENIX, ARIZ.

BLUE SKY, CHOLA VISTA, CALIF.

EAST, HUNTINGTON, W. VA.

MORE

Quality Economy Dependability

D-30
Straight Cords — standard junction box and **quality.**

D-31
Koiled Kords— standard junction box and **quality.**

D-32
Straight Cords — junction box with jeweled down lite.

D-33
Koiled Kords— junction box with jeweled down lite.

There is no additional charge for your personalized speakers when ordered in lots of 50 or more.

DS3S
with Straight Cord

DS3K
with Koiled Kords

BECAUSE only the **Dawo Acousticraft** offers so much for so little—**solid, durable cast aluminum cases,** non-deteriorating; designed for strength and combined with the finest of component parts; IRC wire wound controls; **Quam-Nichols 4" Adjust-A-Cone speakers;** brass bushed knobs; quality all the way thru — and **ACOUSTICALLY TOPS** — because of the engineered compound curved sound chamber. You get the finest toned speaker available — with a full range of sound that extends beyond the transmission facilities of your theatre — all this and at prices that are amazingly low — no small speakers — no substitute cases — just the best full quality speaker available — anywhere — thru your independent dealer — or from the factory.

One or a thousand — quick delivery.

★ ALL STAR FEATURES ★

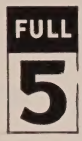
★ **1 Year warranty** ★ **Cast aluminum cases**
★ **Brass bushed knobs** ★ **and many others**
★ **4" Quam - Nichols Adjust - A - Cone units**
★ **IRC wirewound controls** ★ **Full tonal range**

The prime requisites of a Drive-In Theatre speaker, for the new theatre or for replacement of those lost, stolen, or destroyed, are a combination of design, performance, and cost, all of which are found in the new DAWO DRF speaker, designed to fit your theatre, finished to match your speakers, with full sound range, obtainable only with a full 4" speaker unit, and at a cost that is 35% lower than comparable speakers. Only DAWO brings this to you, at prices based on low overhead, and volume production.

DAWO CORPORATION

145 N. ERIE STREET • TOLEDO 2, OHIO

RAMP AND DIRECTIONAL SIGNS



★ D-37

D-38

★ D-37-A

★. Available for Ramps 1 through 15

D-36-R

D-36-B

D-36-C

D-36-L

D-36-XL

D-36-D

D-36-G

D-36-XR

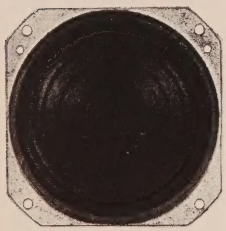
D-36-F

Dawo Ramp and Directional Signs bring to the theatre a solution to the traffic control problem. With Dawo Ramp Signs, you eliminate wandering customers and the continuous search for parking space. A sign for every need, these modern Drive-In Theatre tested ramp signs are made of sand cast aluminum with a brown hammerloid finish. The size is 14" x 9" x 5", equipped with waterproof light socket and post mounting bracket to fit all size pipe.

D-36-E

These signs may be used for post mounting, fence mounting or may be attached to your concession stands and rest rooms.

The sign itself is silk-screened in two or more colors on double strength glass, with a solid black background and translucent red letters that do not glare. All signs have bottom openings to allow for post, driveway, walkway and fence illumination for car handling problems and to effectively control your traffic movement — you can do no better than to install Dawo Ramp and Directional Signs.



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These speakers have proven their adaptability in all temperatures and climates.

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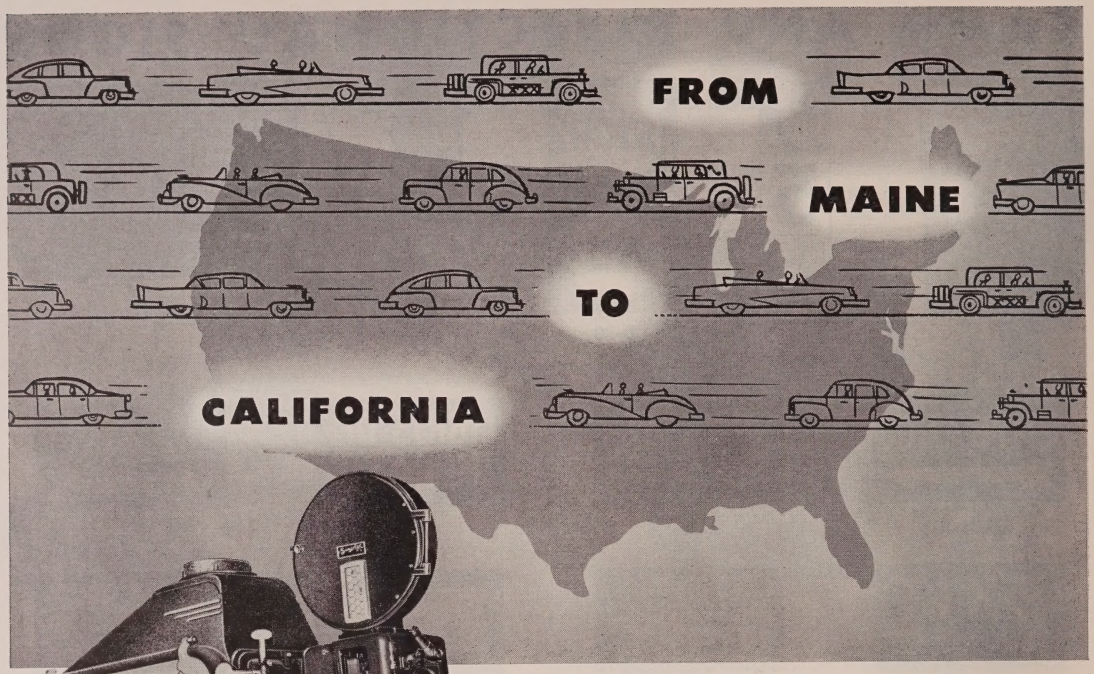

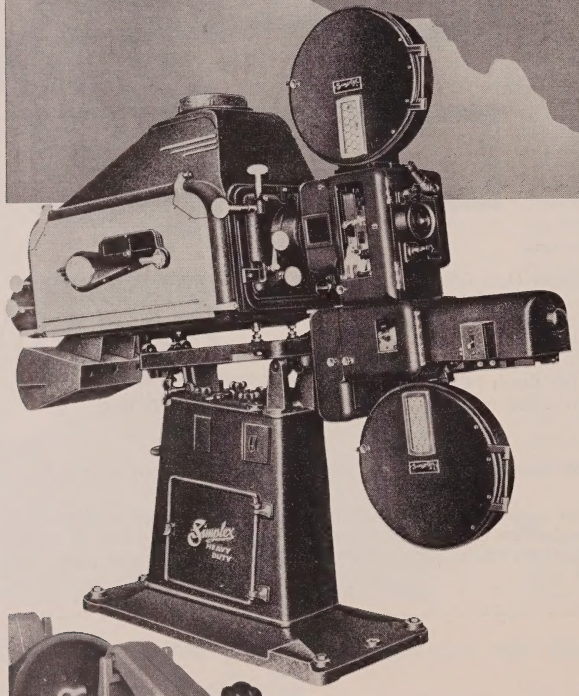

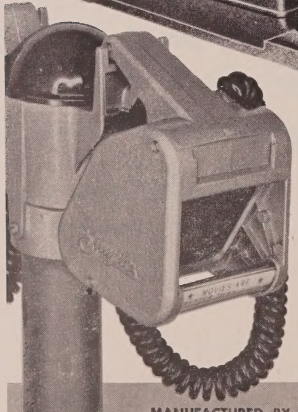

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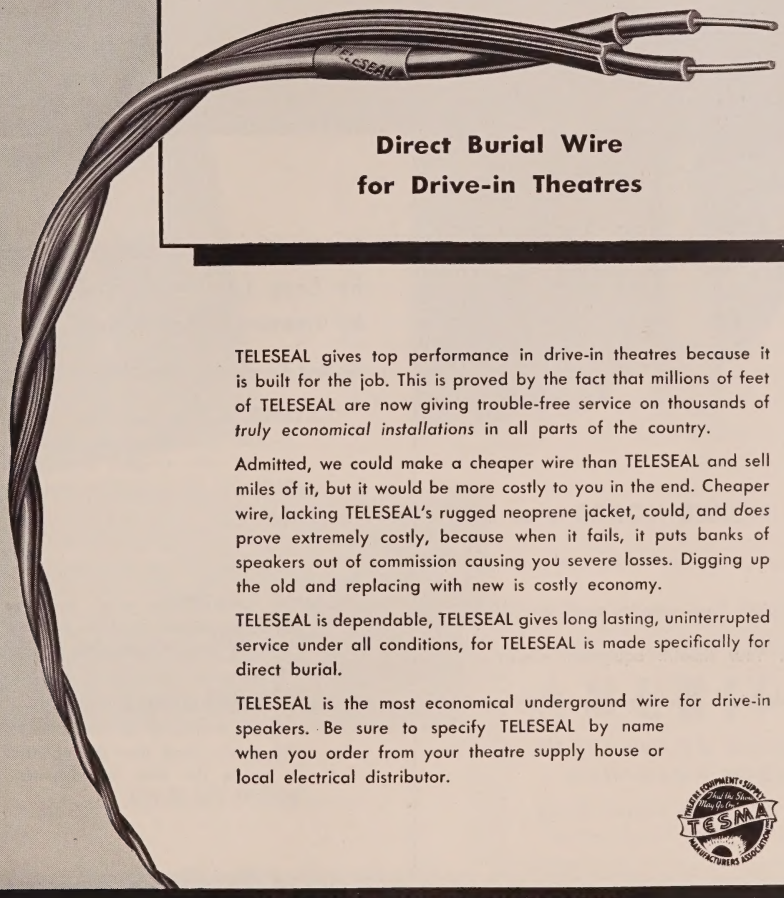

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HELP DRIVE-IN OPERATORS . . .

by Minimizing Speaker Losses
by Long Lasting Service
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Koiled Kords are retractile cords that....

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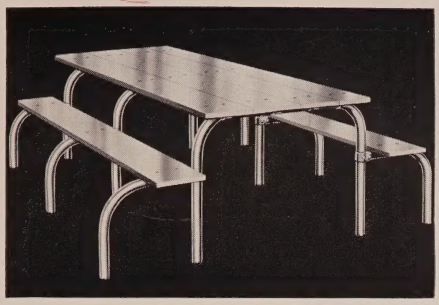
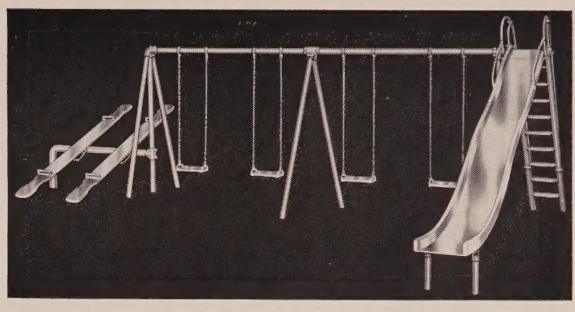


American Streamlined Heavy Duty Picnic Table



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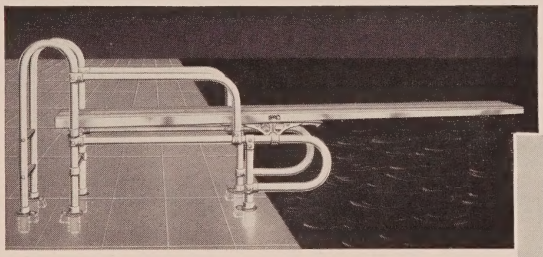

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An economical speaker that is unsurpassed in beauty and performance. Embodies many of the features of higher-priced models and gives sound of superior quality. Has a 3½" cone and large 1.47-oz. magnet. Fiberglas case with attractive molded-in colors. Fits most junction boxes. Small and compact. Permanent color (NO PAINTING) and remarkable service make this the best buy.

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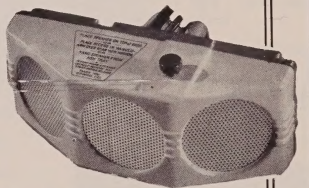

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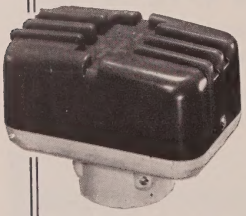

This beautiful, translucent junction box is available in four brilliant colors: green, red, amber and blue. Down-lights available at slight extra cost.

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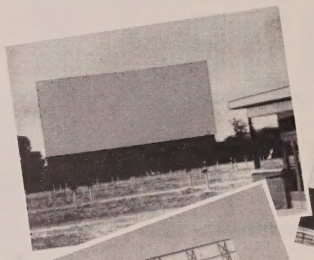

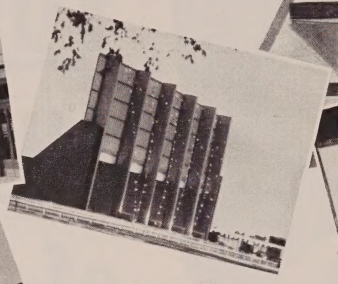

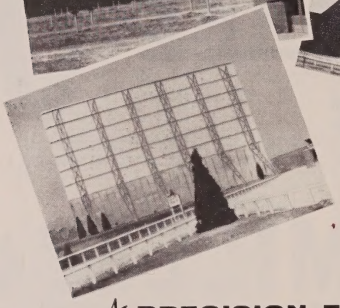

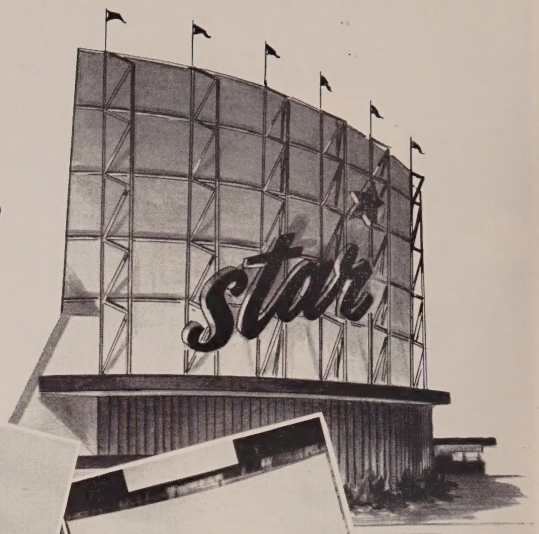

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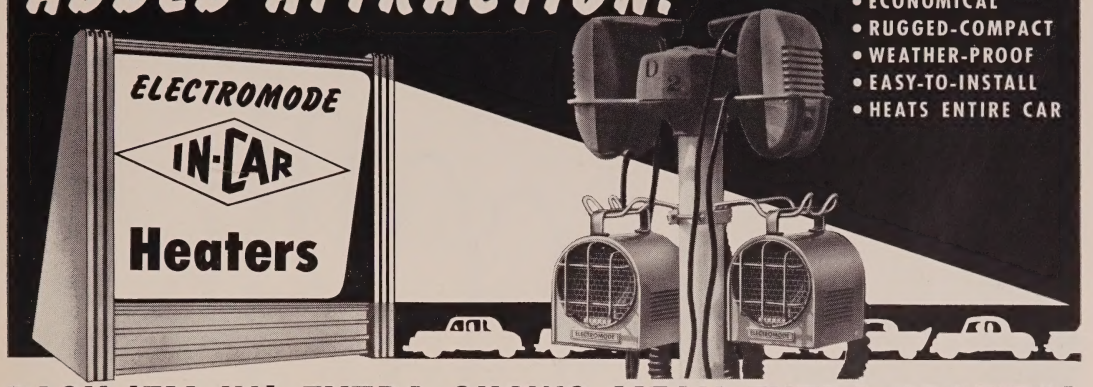
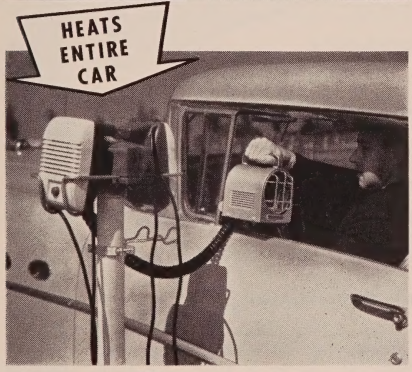


PACK 'EM IN! EXTRA SHOWS MEAN EXTRA PROFITS!



Forget the weather. Add extra showings. Use Electromode's "In Car" all electric heaters. Here's the ideal way to make your theatre attractive to movie goers ALL YEAR round. Your patrons will appreciate safe, clean, odorless electric heat.

Because Electromode makes a "fetish" of safety . . . parents can concentrate on the picture. The Electromode "In Car" heater is *child proof*. (The finned aluminum heating element is *completely* sealed in.) There are no exposed hot wires or glowing coils . . . and no ceramics to break. No danger of fire, shock or burn. May be handled by adults and children with complete confidence and safety.

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- Heat resistant, easy to grip carry handle.
- Sealed in cast aluminum heating element.
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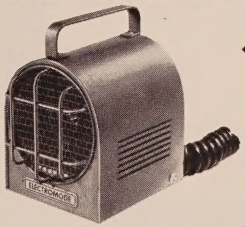
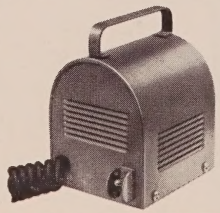
- Heater may be used on dashboard, floor, or any horizontal surface.
- Completely weather proofed. No need to worry about rain, snow or sleet.
- Grounded system insures safe handling always.

ELECTROMODE IN-CAR HEATERS



Front view showing rugged construction and extra large heat dispensing area. Note extra strength protective grill.

View from rear. Additional louvers to insure adequate air intake. Plus feature: double guard switch must be "purposely" set "on" or "off."



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CINEMASCOPE SCREENS

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EXHIBITORS ARE SAYING:

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The perfect screen for drive-in theatres . . . the depth, width and high reflectivity means a clear, undistorted picture from any part of the grounds. The sweeping scope against the backdrop of sky . . . is the most dramatic, spectacular effect you've ever had. Get all the facts and find out for yourself.

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48′ x 100′	50′ x 120′

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1955-56

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The Proper Selection of a Sign, the Letters, and Illumination Will Attract Attention and Help Sell Tickets at the Boxoffice

By Edward A. Long
President, Long Sign Company

BRIEF: *With competition for the entertainment dollar at an all-time high . . . the operator of a theatre today cannot afford to overlook any means of drawing favorable attention to his theatre . . . and getting the public to buy tickets . . . It is not impossible that a theatre which is fully equipped to offer the finest and newest methods of film presentation . . . will not get the attendance it is capable of drawing because the theatre front . . . and particularly the sign . . . does not do its job of offering a friendly . . . unspoken invitation to enter.*

This article . . . prepared by a man who has been in the business of electric signs since 1923 . . . discusses theatre fronts . . . signs . . . and letters in a manner that should be of interest to all theatremen . . . There is specific information on factors to consider in determining the location of a sign . . . what type and size of letters to use . . . what type of illumination to use on the letters and backgrounds . . . how to properly maintain the signs and letters . . . and safety factors . . . The reader cannot help but benefit from this article.

Many theatremen consider electrical advertising signs their best advertising medium. This is no exaggerated theory because a survey by a qualified Lighting Committee* proved it by tests. A comparative circulation cost tabulation brought to light startling figures showing that the over-all effectiveness was exceedingly high.

Profitable showmanship is many things, and no one thing alone will do the complete job. Good seating, pleasant and courteous personnel, adequate equipment and other factors are all important. Right booking and skillful operation is all part of proper and successful theatre operation.

Make the Front Inviting

The front of the theatre and the entrance to the drive-in, however, are also important and should be made inviting. It is here that you first greet your customers. This is when you shake hands with them, so to speak.

In short, we could say that an illuminated sign does two things:

1. **It greets, invites and attracts.**
2. **It lends an air of brightness, cheerfulness, benevolence, good will and well being.**

It has been said that light is the greatest attraction there is for a theatre. No one can deny that people feel more cheerful and acquire a feeling of anticipation and good will where a happy glow of illumination awaits them.

Selecting a Sign

What kind of a sign? What type? How much illumination? Letters should be made so that they are well spaced. Do not crowd them so you have a ball of fire and poor readability. The amount of lights depends on the district brightness. A lighted match on a dark country lane can be easily seen a great distance. By contrast a 100 watt lamp on Broadway's white ways adds but little to the whole.

How do I go above determining what kind of a sign and what size? Make a survey in cooperation with your sign man. The better the survey the better the sign will be.

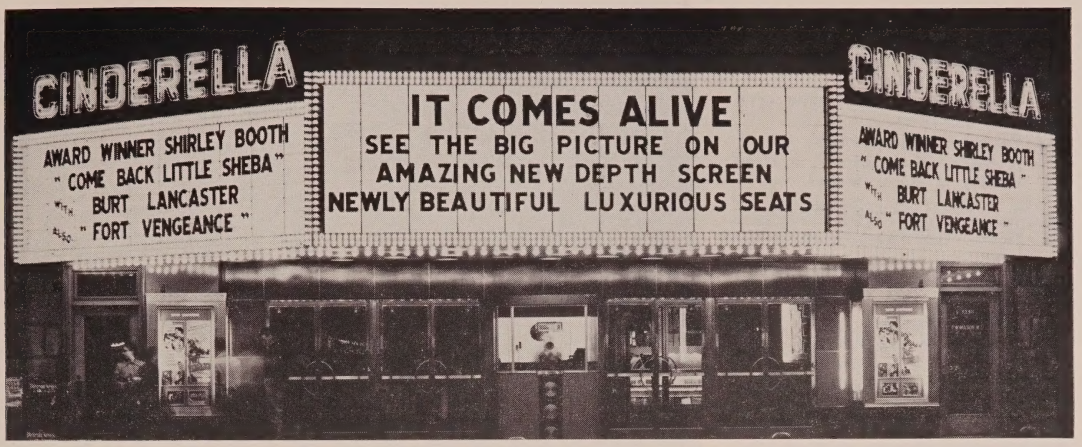
Walk or ride up and down viewing your entrance as a customer would. Take time out for calm thinking to see whether or not there are any obstacles. Will that tree, when summer foliage comes, block the view? What could happen if your neighbor's property becomes built up? Are there high tension utility wires in the way? Any other factors that will possibly block the view will have to be taken into consideration. Remember that your sign is likely to be in place for several years, so make its application to your needs a pleasing one!

Letter Size

Surely there is no excuse for crude forms, repelling colors and garrish designs. Many top notch artists and letter men are now employed to create forms of brightness, motion, color, and

AN INTERESTING example of an attractive and effective flashing sign that conveys the unspoken invitation at the Music Hall, Detroit.

* *Edison Electric Institute, 420 Lexington Ave., N. Y. 17, N. Y.*



ONE OF THE highlights of the extensive remodeling job that was done at the Cinderella, Detroit, was the installation of this brilliantly lighted sign. Proper maintenance is important to keep signs in top condition. A regular and systematic cleaning and repair program is very important.

individuality. One of the greatest weaknesses in much of the electrical advertising is the lack of individuality. A mistake often common is to make the attraction panel too cramped. Thoughtful exhibitors are realizing that automobile traffic requires the use of the larger 17 inch size letters.

More spacing for interchangeable attraction boards is found to be more desirable than formerly. A long name for the title leaves little room for the spelling out of the complete program. Just as in a newspaper ad with crowded copy, as contrasted with an ad with sufficient white space, does not draw well, so an attraction panel should have plenty of white space to set off the copy.

An interchangeable panel with five—10 inch lines high, at least 16 feet long will be greatly appreciated by the copy change man, and will also do a real job for the theatre. Many drive-ins are being constructed with panels six—10 inch lines high and 24 feet in length for use with 17 inch translucent plastic letters.

TODAY'S modern sign must be well constructed and erected in a fashion that makes for safety and close fitting of the metal work. Seen above and below are examples of how it's done.

Lighting the Letters

There are three types of lighting for letters generally used today, neon tubing, exposed lamps and plastic panels. It is hard to beat neon for distance and penetration. Exposed lamps permit sparkle and border flashing effects not satisfactory with neon. Plexiglass panels permit luminosity and evenness of illumination. All types can be combined to make a harmonious whole. Size, spacing and brightness are essentials needed to make a successful sign display.

The greatest viewing distance is the effectiveness or the greatest distance at which the details of the sign must be readily apparent. Frequently, for one reason or another, it is desirable to install a smaller sign in a given location. It will have a lower advertising value at a given distance, but will be still legible.

DISTRICT BRIGHTNESS FACTORS

1. **Bright centers such as Times Square, New York; State Street, Chicago.**
2. **Bright squares in large cities.**

THE FRONT at United Artists, Detroit, shows what can be done to use this portion of the theatre to help keep the boxoffice very busy.

3. Business districts (not white ways) in smaller cities.
4. Centers of small towns.
5. A single isolated display, no street lighting or store windows.

The height of the letter depends on the greatest distance at which they must be effective. This may be approximated as follows:

$$H \text{ (in feet)} = \frac{\text{Greatest Viewing Distance (In feet)}}{300}$$

Lighting the Panels

The lighting of interchangeable panels has been greatly improved in recent years. Incandescent, slimline and cold cathode lamps have all been tested. If incandescent lamps are to be used, spacing must be arranged to avoid black spots. Slimline fluorescent with the use of low temperature ballasts encased in metal cabinets is also successful. Cold cathode fluorescent offer longer life but in cold climates tends to dim.

Tests show comparison in rated length of burning hours as follows:

Incandescent lamps ... 1,000 hours

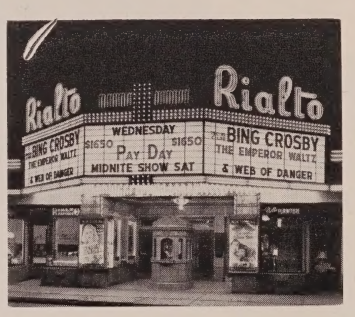
THE PALACE, Flint, Mich., has a theatre front that is simple, but with the ability to draw attention to itself from people in the area.

Slimline fluorescent ... 15,000 hours
Cold cathode fluorescent 25,000 hours

The advantages of using fluorescent slimline and cold cathode bring in the savings in labor because much less relamping is required.

The use of the new type "silver contact" flashers makes for simplified electrical maintenance. Double, triple and four line borders create action and flowing effects. Well formed arrows flowing in the direction that traffic is meant to flow are pleasing and have decided advantages. Ten watt yellow and clear lamps are not costly and when possible should be four inch centers but can be spaced quite well on six inch centers.

If a light background is to be selected channel letters are a must to confine the light to the shape of the letters. If stencil or flush letters are selected be sure to choose a dark background. This darker background will help very much in making the letters legible. Letters



NEIGHBORHOOD houses, such as the Rialto, Fort Wayne, Mich., can create a "downtown" quality easily with the use of a good theatre front.

A GOOD sign can make a theatre look bright and cheerful, such as seen here. By creating this atmosphere the exhibitor helps increase sales.

ENTRANCE to the Wayne Drive-In, Wayne, Mich., is made both exciting and inviting through the use of an attractive and well lighted sign.

and background must always contrast in color. Light backgrounds reflect light, dark backgrounds confine or absorb light.

MAINTENANCE

In industrial and downtown districts monthly cleaning is necessary. In suburban districts a cleaning every second or third month will do. This refers to opal glass both inside and out. Street dust has a way of creeping through the joints and settling on the inside of the glass. Sometimes it works well to clean the outside surfaces twice as often as the inside. A warm sunny day is the right time as this operation becomes impossible on damp rainy days. The lamps should be wiped off periodically. When they are half dirty you lose half your light. In other words your light costs are doubled for the same results.

Never permit leaks in your marquee roof to continue. You will find costly repairs necessary if you do. Your interchangeable plastic letters can easily be washed with warm water and mild soap —how simple it is to have it done periodically.

A monthly service contract including patrol service may be a systematic and effective way to keep your sign maintained, if such service is available to you by your local sign contractor.

Safety

Always inspect your signs for their safety condition yearly or oftener as necessary. Accidents are poor publicity, even though you carry insurance. If signs are to be fastened to walls be sure masonry will hold added weight, for which, perhaps, it was not originally intended. If signs are to be set in cement footings be sure the steel is set in the ground deep enough and enough cement is used to keep things firm and straight during that unexpected, heavy windstorm.

A DRAMATIC illustration of what can be done to make a drive-in theatre appealing to the public is seen at the Gratoit D-I, Gratoit, Mich.

THE RAMONA, Detroit, uses the proper size of letters and a well designed sign to make itself noticed by prospective buyers of tickets.

THE SAVOY, Grand Rapids, Mich., (above), and the drive-in (right) are two more examples of the power of combining signs and letters in a combination with illumination for strong appeal. This combination helps to sell more tickets.

The Versatility of Porcelain Enamel

Porcelain Enamel is Described as a New and a Versatile Material for Use in Various Areas of Theatre Buildings

By ARCHER TRENCH
Sales Manager, Porcelain Enamel Products Corp.

It is essential that your theatre present a handsome, attractive appearance if you are to retain the goodwill of your patrons and give them the all-important feeling of "being out" for the evening. However, with maintenance costs continually rising, the task of keeping theatres at a high point of attractiveness is becoming more and more of a problem.

BRIEF: ***This article describes the many . . . and interesting new uses to which porcelain enamel may be put in various areas of the motion picture theatre . . . Although this material was usually thought of in terms of bathtubs and roof tiles . . . the demands of modern architecture has transformed porcelain enamel into one of the most versatile and interesting materials for use in public buildings . . . such as theatres.***

The author describes . . . in detail . . . how porcelain enamel may be used for marquee letters . . . to construct box-offices . . . as acoustical panels . . . to cover interior walls . . . as decorative handrails . . . converted into striking and colorful murals for lobby display . . . and many others.

This material is available in a number of sizes . . . and many colors and patterns are also obtainable . . . It is fairly easy and inexpensive to install . . . and requires little more than a damp cloth to maintain its like-new appearance . . . Naturally . . . the porcelain enamel is resistant to all types of weather conditions and resists the wear and tear to which all materials are put in the normal operation of a theatre.

NEW MATERIALS

For this reason, an increasingly large number of theatre managers are turning to new types of materials which will combine the features of durability, economy, beauty and low maintenance cost. Such a material is porcelain enamel. Until very recently, most people thought of porcelain enamel in terms of bathtubs, Howard Johnson roof tiles, and gas stations. However, modern architectural progress and intensive research have transformed porcelain enamel into a variety of uses never before contemplated, many of which can be profitably put into practice in your theatre.

Delicate and Strong

Porcelain is both delicate and strong —delicate enough to hold and capture forever every color in the spectrum—strong enough to stand up against the harshest treatment. Manufactured by several leading companies, it is now recognized as a prime building material, adaptable to almost every type of construction. Here are some of the uses to which it has been put: porcelain spandrels; coping; wall, roofing and acoustical panels; murals; cement block facings; fire places; window stools and sills—even church steeples.

Priced competitively with other building materials, porcelain enamel is available in an unlimited selection of colors. It can be used in your theatre, for example, to redecorate your lobby even to the point of including strikingly designed murals "painted" by the manufacturer's ceramic artists. Actually, the glass colors used for the murals are smelted and fused to the steel core, thus guaranteeing an extremely durable finish of non-fading hues.

Even the railings in your lobby can be constructed of muralized porcelain enamel. Instead of the usual brass railings, many theatre operators have added a festive cheerful note to their lobbies with gaily decorated porcelain enamel railings. Unlike brass, which tarnishes easily, porcelain enamel will retain the brightness of its colors permanently. It needs no polishing agent, either. A damp cloth rubbed along its surface is all that is necessary to keep it clean and new looking, no matter how many hands brush up against it.

Aids Acoustics

Every theatre manager recognizes the necessity of effectively muffling echoes and vibrations of sound in the theatre.

THE CARIB THEATRE, in Miami, Fla., offers an interesting example of porcelain enamel can be used to produce a sturdy, striking theatre front.

Few distractions so annoy audiences as not being able to hear clearly the spoken word. Conventional acoustical panels will satisfactorily deaden sound. But, inevitably, the holes in the board become clogged with dirt, necessitating expensive repairs. By using porcelainized perforated panels, you not only increase the effective sound proofing in your theatre, you also indefinitely extend the life of the acoustical panels themselves. Moreover, the use of porcelain enables you to add new esthetic values to your sound-proofing and, at the same time, virtually eliminates all maintenance and upkeep costs.

For theatre marquees, there are available porcelain enamel letters in all sizes and colors. Strong and graceful, these letters are capable of withstanding the seasonal onslaughts of all kinds of weather. They are dirt-resistant and won't chip or crack. Theatre managers have found out that the use of bold colors in their marquee letters serves as a magnet in drawing the attention of potential patrons. This is especially so when the title or theme of the feature picture lends itself to dramatic treatment in the selection of colors.

Porcelain enamel may be effectively used in the building of ticket booths, in construction of handsome, long-lasting tables, in the backs of seats—in short, wherever a working surface is involved.

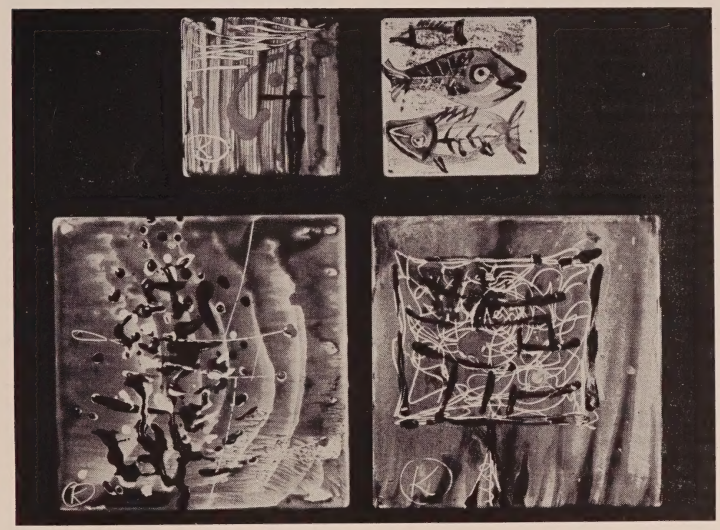
WALL COVERING

One of the most important advances in the use of procelain enamel as a wall covering is a product called Veos, which has been developed by the Porcelain Enamel Products Corporation of Rehoboth, Massachusetts. Ordinarily when interior walls are to be renovated, elaborate and costly wall preparations are required. It is often necessary to replaster old walls or install special wood furring strips. When clay tile products are used, the old walls must be torn out, exposing the wood studding, and metal lathes installed to hold the required wet cement bed.

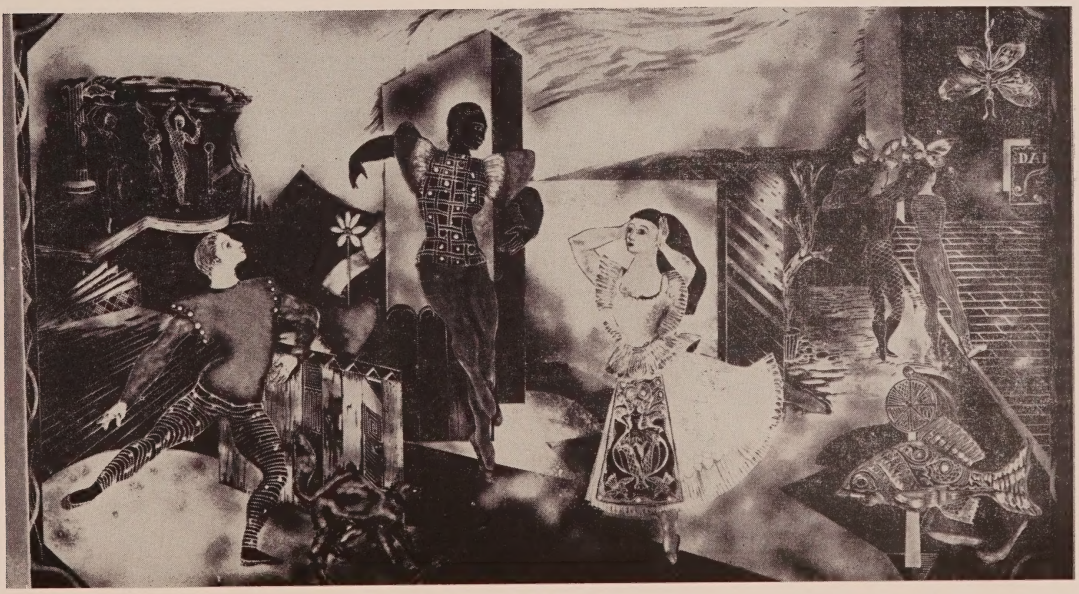
New Technique

Veos presents an entirely new and ingenious technique. Borrowing the standard modular idea of ceramic clay tile, Veos is manufactured in a complete range of rectangular shapes. Each unit is a small flange metal pan, with a ceramic porcelain finish. These shapes are manufactured in two standard modules, four and one-half inches and eight and one-fourth inches. The secret of the installation is a patented, grooved backing board, which is nailed up over the existing wall. The grooves of this backing board are in a rectangular grid pattern and are deep enough to accept the flanges of the Veos shape. These grooves provide quick precise installation, with alignment automatically controlled by the grid pattern. The Veos shapes are held in place with a specially compounded adhesive, and the intersections are filled with a white grouting cement.

This unique Veos installation method has particular significance for the theatre owner. Since the backing board pro-



FAMOUS ARTISTS, such as Gyorgy Kepes, whose work is seen on the left, decorate Veos tiles. Murals such as Doris Hall's award winning example below can be installed in theatre lobbies.



vides one-half inch of standard thermal and acoustical insulation, it improves the acoustical properties of the theatre and contributes a year-round saving, by reducing the load on the heating and air conditioning equipment. The savings to the theatre owner in costly wall preparations are obvious.

Veos offers the theatre manager a choice of two sizes and a wide variety of colors, as well as custom-decorated effects. The four and one-half inch module is the traditional size and is particularly well suited in cases where a regular tile effect is desired. The new large eight and one-fourth inch size has been developed at the request of architects and theatre managers who desire a more modern, bolder appearance.

Sizes Available

In the four and one-half inch module, tiles are available from one and one-half inches square to strips one and one-half inches by six inches. An interesting use of the one and one-half inches by six inches size was obtained in an Albany theatre, where the manager, who catered primarily to a youthful audience, had his candy stand tiled in peppermint stick colors. This was done with alternating stripes of white and red. The novel design and the immaculate appearance of the stand demanded the attention of patrons. The result was a significant upturn in the sale of refreshments.

The strength and toughness of porcelain enamel is especially important to you as an exhibitor. Since it is a public place, your theatre is subjected continually to wear and tear by hundreds of thousands of people. However, the porcelain surface will retain its luster and newness no matter how roughly it is treated. It is also immune to most types of vandalism. Kicks and scuffs wipe off easily, as do lipstick and crayon smudges. A heavy club smashed against a wall tile will only dent, not shatter, the tile, which can be easily replaced. A sharp knife will not scratch its surface.

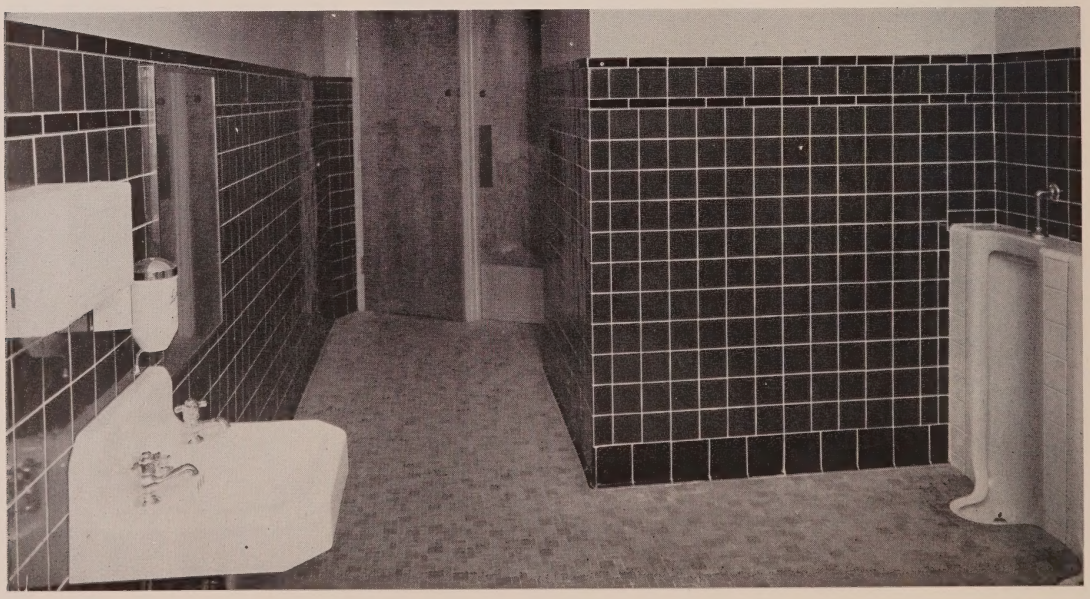
Colors

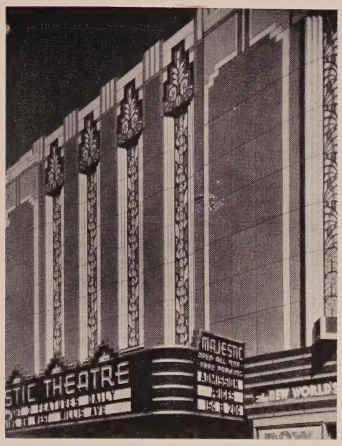
Most of your theatre is in subdued, dim light. The use of color, therefore, in the lighted sections is vital in establishing the theatre's personality and character. Porcelain can be made in virtually every color of the spectrum, thus allowing your decorator to use his imagination in beautifying your theatre.

Restrooms, for example, used to be tiled in sharp white, a color more appropriate for hospitals. However, it has been shown that the public is pleased with more striking combinations of colors. You'll be making a big hit with your patrons by styling their restrooms in pleasing hues and modern contrasting colors. You can further highlight the decor of your restrooms with colorful porcelain bathroom accessories. These fittings are mounted flush with the tiled area, yet fasten directly to the underwall structure. They are designed to become an integral part of the wall in appearance as well as strength.

If your decorator wishes your lobby and lounge refinished, he can choose

PORCELAIN ENAMEL tiles are easily installed, as demonstrated on the right. These tiles can give the wash rooms of a theatre a long-lasting and attractive appearance as in photo below.





ANY DESIGN, in any range of colors, can be reproduced permanently in porcelain enamel. Its ease of maintenance makes it ideal for theatres.

from a full range of porcelain colors to create any impression desired—exuberance, perhaps, in the lobby, with bold gay colors. For the lounge decor, you might wish to suggest a restful dignity by using soft tones and muted colors as the basis for your design.

Porcelain Murals

A technique for creating porcelain murals in full color has been developed by Doris Hall, a nationally famous ceramic artist, who was awarded the Architectural League's Silver Medal Award for 1953. Porcelain Enamel Products Corporation has made special arrangements with Doris Hall and her husband, Kalman Kubinyi, who are directors of Architectural Art and Color of the Bettinger Corporation, to decorate Veos tile on special order for theatres. These tiles can be used individually to accent the colors of the decorator's scheme, or together to form a Mosaic mural. Another possibility would be to use Veos to frame one of Doris Hall's large porcelain murals.

Porcelain Enamel Products Corporation has also arranged for the services of other famous ceramic artists, such as Gyorgy Kepes, Professor of Visual Design at the Massachusetts Institute of Technology. A new service now being instituted will allow the theatre owner's own interior designer to decorate Veos tiles with kits supplied by Veos. These tiles will then be returned to the Veos plant for firing in the company's kilns.

Long Lasting

As you have probably noticed, conventional tile after a few years of use will chip or craze (i.e. crazing is the development of fine hair lines that invariably form in ceramic glazes). Because the porcelain and metal core expand and contract together, Veos will never chip or craze. In addition, porcelain enamel will never lose its luster. It is weather-resistant and cannot rust. Heat, moisture, soap, alkalies and most acids cannot affect the permanence of its colors. Maintenance cost of porcelain enamel is practically nil. It takes only a few minutes to clean its smooth hard surface. Any cleansing agent — soap, detergent, or even steel wool may be used.

Because of its permanence, freedom from maintenance, and its durable non-fading colors, porcelain enamel is being used more and more for building exteriors. The first use of a porcelain enameled curtain wall construction was pioneered by the architectural firm of Eero Saarinen & Associates for the General Motors Research Plant, outside Detroit. Here porcelain was used as a facing on sandwich-type two-inch insulated core spandrels. This type of panel combines two porcelain-on-steel faces over honeycomb insulated core, for internal and external finish and space economy. The enameling was done by the Bettinger Corporation of Waltham, Massachusetts.

Carl Koch, a nationally known New England architect, used multi-colored porcelain enamel for frieze-fascia along the roof line of the Youth Center in Fitchburg, Massachusetts. The art work was done by Gyorgy and Juliet Kepes, and this, in turn, was accented by porcelain sculptured owls by William Talbot. A similar treatment is being planned for a New England theatre.

Porcelain enamel was used exclusively in the bathrooms of Levittown homes because, in the words of Alfred Levitt, "It provided a luxury finish which could be economically installed." More than 13,000 Levitt-built homes are now tiled in porcelain enamel, with uniformly satisfactory results.

Porcelain enamel is now being widely used in buildings which are in daily use by the public, such as schools, hospitals,

THE COMBINATION OF porcelain enamel and the proper type of lighting is one which enables the exhibitor to obtain effects which will attract.

THE THEATRE SHOWN in this illustration has a front completely made of porcelain enamel, including the marquee and even the poster frames.

and libraries. In common with theatres, these buildings must have materials capable of standing up against strong punishment. Installed in the Westchester, New York, County Hospital, for example, porcelain enamel was praised by W. S. Curran, the hospital's purchasing agent, as a "most sanitary and economical wall covering with no upkeep and maintenance problems." Freeman, Hayslip and Tuft, architects for the Robert Gray School in Portland, Oregon, reported that they selected porcelain enamel "because of its extremely low maintenance cost, beauty and durability." Since schools, even more than theatres, suffer from the antics of youngsters, the damage-resistant qualities of porcelain enamel become still more apparent.

CONCLUSION

Even if you are contemplating only a limited amount of remodeling within your theatre, porcelain enamel can be of use to you. The versatility of color, size and shape of porcelain enable it to work easily into virtually any type of color scheme. Its unique durability, and its ability to withstand the continual wear and tear of all kinds of weather and the heavy traffic of theatre clientele, make it particularly appropriate for your use.

To summarize, there are porcelain letters for your marquee, porcelain exterior panels, porcelain sculptures and murals and Veos tile for interior remodeling. For further information about any of these products, any of the leading porcelain companies such as The Bettinger Corporation of Waltham, Massachusetts, Toledo Porcelain Enamel Products Company of Toledo, Ohio, or the Porcelain Enamel Products Corporation of Rehoboth, Massachusetts, have staff engineers whom they will send for consultation without obligation.

Plastic Paneling

A Review of the Many and Varied Ways in Which Plastic-Finished Paneling May be Used in Remodeling and New Theatre Construction

While the attractions on screen or stage are the main things that draw crowds to theatres, few owners and operators would deny the importance of attractiveness of entrance and interior in helping people decide where to spend their time and money.

Theatre patrons may not be long on the way to and from their seats, but when they are, they want to see surroundings that are pleasant and in keeping with the mood for amusement. An interior that both appeals to big crowds and stands up to the demands of their use is a basic need for a thriving theatre business.

For answers to diverse phases of the problem of theatre decorating many theater owners have been turning to an attractive, durable and versatile plastic-finished paneling which Marsh Wall Products, Inc., manufactures under the name of Marlite.

BRIEF: ***That the physical appearance of the theatre is today almost as important as the projection and sound equipment . . . and the films shown . . . can not be denied by alert operators of motion picture theatres . . . Fortunately . . . industry has developed and greatly improved entire families of products which make it possible to remodel or construct theatre buildings that reflect the modern times we live in . . . as to appearance . . . ease of installation . . . and durability . . . This article discusses one of these . . . plastic-finished paneling for walls . . . ceilings . . . and other applications . . . There are discussions about the various types of paneling available . . . both as to size . . . and colors . . . as well as suggestions as to what parts of the theatre structure would get the maximum efficiency from each of the different types and styles available.***

Plastic Finished Paneling

Offering the decorative qualities of a wide range of authentic wood grain patterns, colorful marble patterns that are faithful replicas of selected imports, and plain colors both bright and pastel, Marlite is suitable for any wall where both beauty and serviceability are required.

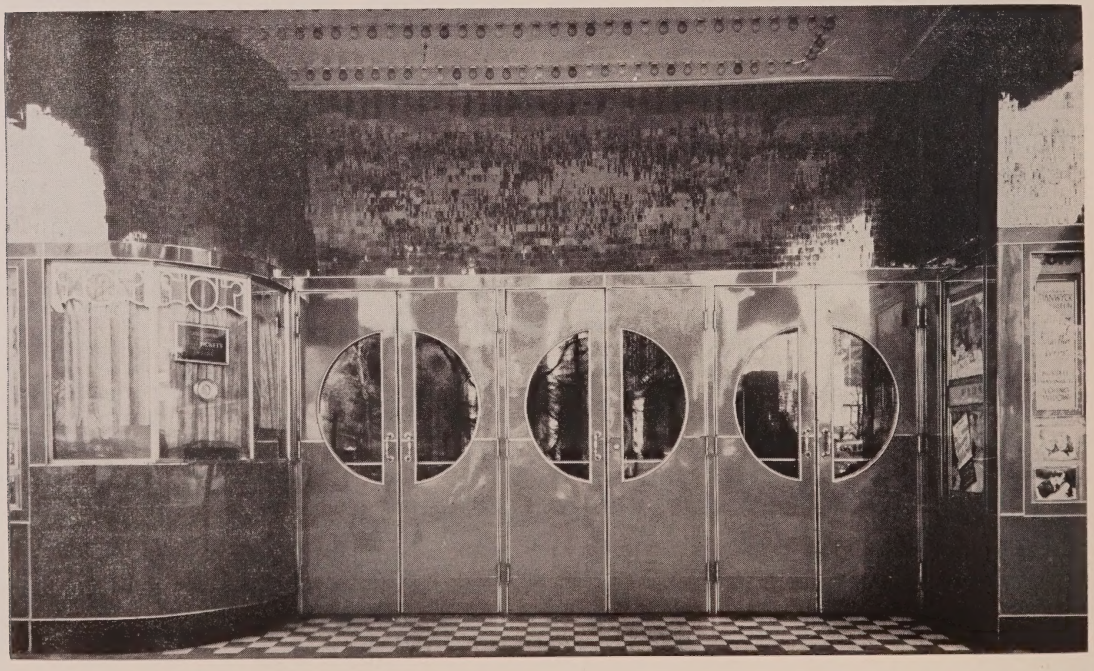
The baked plastic finish which preserves Marlite's attractive appearance means important savings in labor and materials for upkeep. Smooth and hard, the finish resembles that of modern kitchen appliances. The surface resists soil, moisture, wear, impact, stains, grease, lipstick, heat, urine and various other abuses. It is wiped clean with a damp or sudsy cloth, and it does not need periodic refinishing or painting. The durability of the paneling is enhanced by its base of Masonite tempered hardboard.

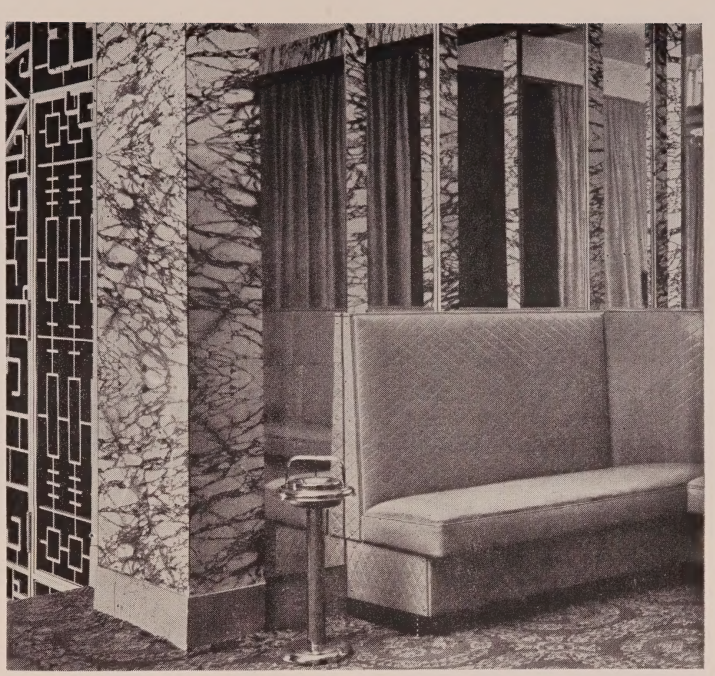
In one theatre or another, the plastic-finished panels may be found on the walls just about anywhere. Here are some of the places where Marlite can be used to advantage: ticket booth, foyer, lobby, check room, concession stands, lounge, washroom, employees' locker room, office, stairway, auditorium.

Special Problem Areas

In addition to general wall and ceiling applications, the material is useful for a number of special problem areas. As a covering for much-used doors, for example, it has been found very successful, reports The Melville Corporation, which has installed many outstanding theatre interiors in the Chicago area.

THEATRE ENTRANCE doors and ticket booths are popular areas for surfacing with Marlite panels, shown here in plain colors. The plastic-finished paneling, cut with a regular carpenter's saw for fitting, is bonded to the doors with rubber-based wallboard adhesive. Molding provides the decorative trim.





THE LUXURIOUS look of marble at a fraction of the cost is obtained for this theatre lobby by using a marble-pattern paneling. Wiping with a damp or sudsy cloth will keep the panels clean.

This firm often renews entrance doors with Marlite. Upholstered doors that have become dilapidated are easily face-lifted; the upholstery is stripped off and the new paneling is readily applied to the steel door by bonding with a wallboard adhesive. Washroom doors are another kind for which Melville especially recommends Marlite, because a painted surface quickly shows the marks of soil and wear from hands, even if there is a protective plate.

The wall area next to a drinking fountain, where youngsters not only quench their thirst but also indulge in a special brand of water sport, is another spot often protected with the plastic-finished panels.

Among other problem spots for such treatment are the areas behind wash basins and washroom walls that are targets of amateur efforts at writing and artistry. Pencil, ink, and lipstick marks are easily removed from Marlite surfaces, and for this reason the paneling often is applied over more expensive materials like marble that has become stained beyond recovery.

Exterior Use

Although Marsh Wall Products does not recommend exterior use of Marlite, it has served successfully for a Detroit theatre chain for outside paneling, waxed monthly for protection from the weather.

At the factory, Marlite undergoes a series of exacting performance tests in which it is exposed to flame, baking, immersion in water, sawing, hammer drop, abrasion wheel, cycle of wetting and drying under ultra violet lamps, 100 per cent humidity, colloidal graphite marks, ammonia, suds, nail polish, acids, urine and various other hazards.

Theatre interiors may have extensive application of Marlite paneling and still present appropriate variations in appearance. Differences in size and form as well as patterns and colors multiply the possibilities of decorative plans. The product line is made in large sheets up to four feet by eight feet in planks 16 inches by eight feet, in blocks 16 inches square, and in hollow-core panels two feet wide and four feet or eighte feet long.

Marlite paneling may be applied directly over old walls, if they are solid and firm, or over furring strips. Since walls do not have to be torn up for modernization with this paneling and there is no muss, a theatre need not lose operating time for this part of the work.

Versatile Material

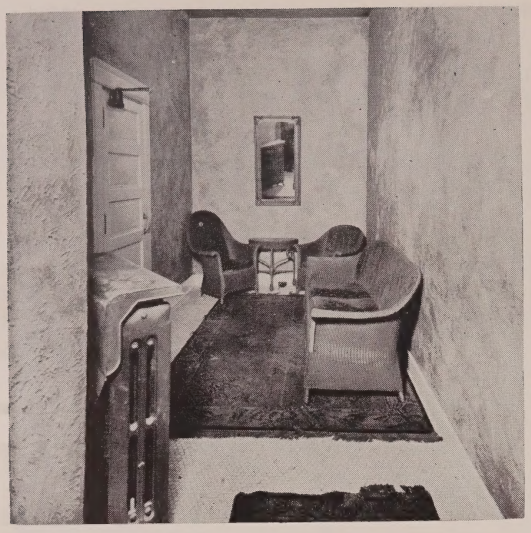
The panels, except those of hollow-core design, may be bent to conform to curved surfaces, and all may be readily cut with a regular crosscut saw.

Matching or harmonizing moldings are available for all forms of Marlite panels. The planks and blocks and the hollow-core panels do not need divisional moldings at joints, however, because they have tongue-and-groove edges.

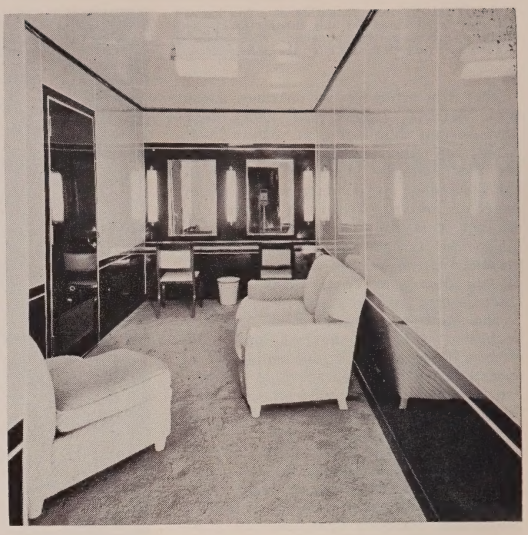
In the large four foot-wide panels, Marlite is offered in a range of colors and patterns to suit any decorative taste. There are eight wood grain patterns, five marble patterns and 11 plain colors.

Faithful reproductions of the coloring and grains of selected fine woods, the wood patterns are birch, golden ma-

RICH TONES of black and gold marble-pattern Marlite give a distinctive appearance to lobby, walls and stairway. The same paneling, in a plain color covers walls behind the concession.



THESE BEFORE (left) and after (right) photos illustrate how a dingy powder room was made attractive and inviting in appearance. Smooth, colorful



panels of plastic-finished Marlite were applied directly over the walls of the rough-textured plaster. Same material was used on the built-in vanity.

hogany, striped mahogany (dark), natural walnut, silver walnut, natural prima vera, gray prima vera and limed combed oak. Sizes are four feet by six feet and four feet by eight feet.

The unique beauty of marble, so effective for decor in public places like theatres, may be had at a fraction of the cost of the natural material, through the availability of authentic likenesses in Marlite marble pattern panels. A wide choice in coloration and design is offered in the five marble patterns, which are called black and gold, Verdi antique, rose de Brignoles, jaune benou and Skyros. Sizes are 32 inches by four feet, 64 inches by four feet and eight feet by four feet.

Various Colors Available

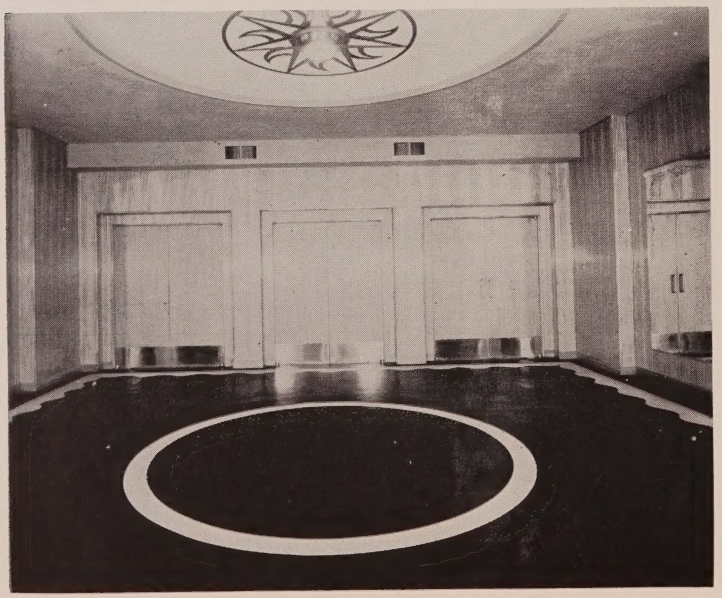
The plain colors in large panels include the following: midnight blue, pastel blue, pastel yellow, ivory, desert tan, dubonnet, Indian red, dove gray, pastel green, jet black and swan white. All are available in sizes of four by four feet, four by five feet, four by six feet and four by eight feet, except for midnight blue, Indian red, dubonnet and jet black, which are made in four by eight feet only.

In some colors, the panels are offered with decorative score line treatment. Patented score lines with rolled edges, exclusive with Marsh wall products, permit the finish to build uniformly over the whole surface, which is not the case when sharp edges are left from scoring.

Panels with Horizontaline treatment have two pairs of score lines, centered 16 inches apart within the four foot width, with the lines running the full length of the six feet or eight feet panels. On panels of pastel green, desert tan, pastel blue or pastel yellow, the score lines are white; on swan white panels, the lines are black.

Also available are tile-pattern panels with score lines four inches apart vertically and horizontally. Using these large scored panels, the tile effect can be obtained with much less installation time than if small squares or other materials were used. In pastel green, desert tan, pastel blue, pastel yellow and dove gray, the panels have white score lines; panels of swan white may be chosen for either red or black score lines. Standard sizes are four feet, five feet, and six feet and eight feet lengteh, all four feet wide.

Large sheets of Marlite are secured with a rubber-base adhesive, and exposed edges are covered with moldings.

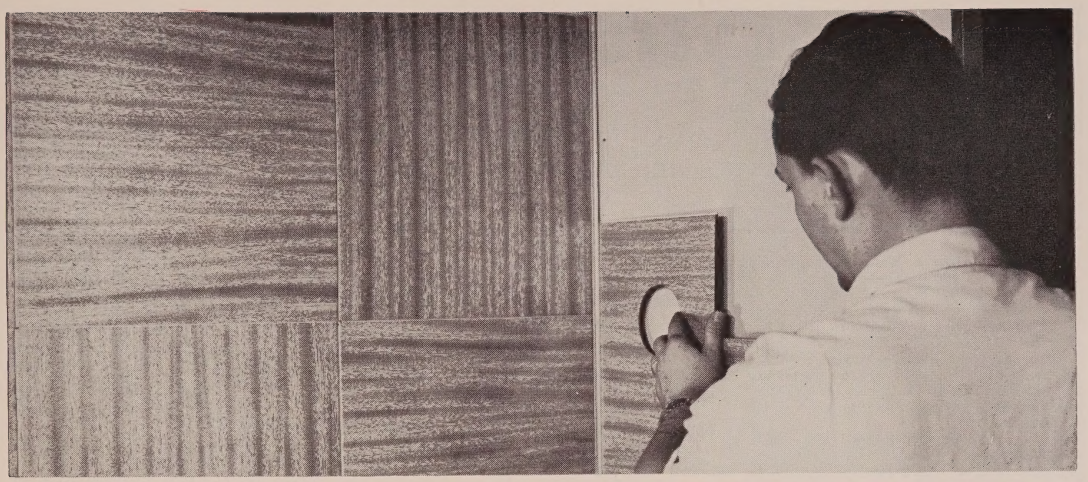


THE WALLS of the foyer and lobby have been covered with pre-finished prima vera wood veneer panels. The theatre doors are similarly treated.

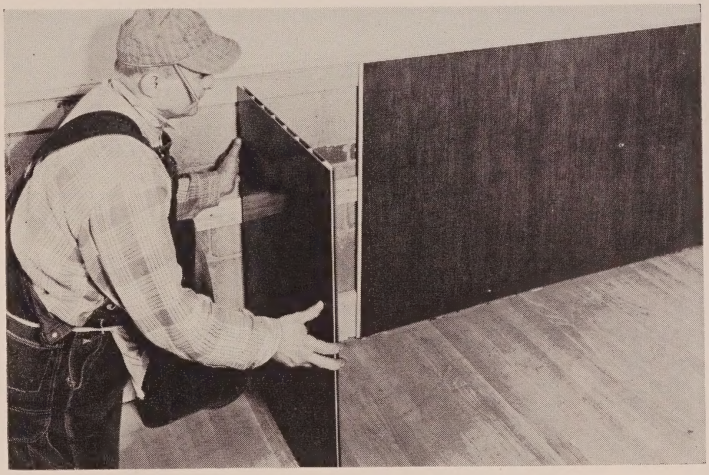
Planks and Blocks

Marlite planks and blocks represent a new development is this plastic-finished paneling line. Handy in size and handsome in looks, the 16 inches by eight foot planks and 16 inch-square blocks are available in a palette of 10 "companion colors" styled by the famous designer firm of Raymond Loewy Associates, and in four wood grain patterns — all with soft-luster finish.

The tongue-and-groove edges of the planks and blocks make for speedy installation and assure neat joints in which



THEATRE OFFICES and other interior areas can make effective use of Marlite paneling in the recently developed form of blocks and planks (above). They have tongue-and-groove edges for speedy and neat installation. Hollow-core panels (below) of Marlite Korelock are quickly applied over furring strips, studs or joists. Lightweight and strong, the panels can be installed without any backing materials.



all fastening is hidden. The panels are held in place by the wallboard adhesive and by pronged metal space clips inside the joints. Nailed into the wall or into furring strips, the clips serve to provide the proper 1/16 inch space inside joints for normal expansion and contraction, in addition to their holding function. This type of joint eliminates the need for batten strips, tape or molding for joint treatment.

Companion Colors

Lively yet muted, the "companion colors" formulated by the Loewy experts cover a full range of hues that afford many harmonious combinations. The selection comprises light aqua, dark aqua, foam green, sage green, mist gray, smoke, dusty pink, sunlight yellow, parchment and polar white. Light and dark shades of aqua of green or of gray may be paired, and distinctly different colors can be intermixed.

Wood patterns available for planks and blocks include natural walnut, silver walnut, golden mahogany and striped mahogany. Two tones of the same basic wood pattern can be used together effectively.

While Marlite blocks are excellent for ceilings, they also serve extensively for walls, providing striking accents in room plans. For example, an end wall might be finished with blocks in a room that is paneled with planks elsewhere. Blocks may emphasize a special wall structure, and they are suitable for covering columns. In many interiors, planks are sawed in half to make a four foot wainscot, and the upper wall is covered with blocks.

Many interesting wall patterns can be created with blocks. With the direction of wood grain alternating from block to block, a basket-weave effect can be achieved, in either horizontal-vertical alignment or diagonal placement. Similarly, two colors may be alternated. For other variations, joint lines may be staggered.

New Product

The new hollow-core panels called Marlite Korelock add still more versatility to this paneling family, both for new construction and modernizing. Korelock consists of two sheets of Masonite tempered hardboard joined together with an interlocking wood core. The face sheet is decorated and finished with baked plastic, while the opposite sheet has a baked sealer coating. These finishes, plus a special design allowing the panel to "breathe," provide vapor-balanced stability.

Applied directly over joists, studding or furring strips, Korelock saves hours of time and dollars of labor. Because the panels have tongues and grooves at ends as well as sides, they can be applied horizontally, vertically or both. The joints give a fast, accurate fit and at the same time provide a "floating action" that permits expansion and contraction. Panel tongues are predrilled for screw-type nails to assure exact positioning. With the simplified installation, no backing materials, adhesive clips, division moldings or bracing are needed.

In convenient sizes of two by four feet and two by eight feet, Korelock is suitable for either wall or ceiling applications. It is available in the same 10 "companion colors" and four wood grain patterns as Marlite planks and blocks.

This lightweight paneling is strong and rigid. Applied to both sides of a furred stud wall, it affords excellent resistance to sound transmission.

A full line of decorative moldings of aluminum or Masonite Presdwood is made to complete any Marlite installation. The selection includes cover, corner, edging, base, shoe, division, cap and facing moldings and they may be nailed, snapped or screwed into place. Finishes are polished aluminum, colored, wood pattern or marble pattern, according to requirements.

With its variety of decorative possibilities, its ease of installation and its care-free maintenance, Marlite plastic-finished paneling has served a valuable role in making theatre interiors inviting to amusement-seekers.

Ceramic Veneer in the Theatre

Terra Cotta May be Employed in Various Forms in the Theatre Building and the Different Types and Applications are Discussed by an Expert

BRIEF: *The motion picture theatre has at its disposal all of the many types of building materials that have been developed throughout the years . . . It is in keeping with the original intent of the theatre if materials of an uncommon nature are used in interesting and new applications . . . One of the materials that could fall into this category is ceramic veneer . . . which is a modern form of terra cotta.*

This article . . . prepared by a man who has spent years in this field . . . discusses the various types of terra cotta . . . how and what each form is used for . . . the manufacturing process . . . and the physical properties of this material . . . There is also an interesting section devoted to the installation procedures required for the two most commonly used forms of terra cotta . . . Although terra cotta would probably find its greatest use as a structural architectural decoration . . . the theatreman who is considering building or remodeling should find this article of interest.

By James P. Barbour

Staff Engineer, Structural Clay Products Institute

In the design and construction of theatres, as in other types of commercial or public buildings, certain major considerations are involved in material selection. Those materials which will be used for facing walls — both interior and exterior — must be durable and easily maintained even under severe usage. Ceramic veneer is widely used for such installations because of its permanent fired ceramic colors, its flexibility of shape and size, and its impervious, easily cleaned surface.

Modern Form of Terra Cotta

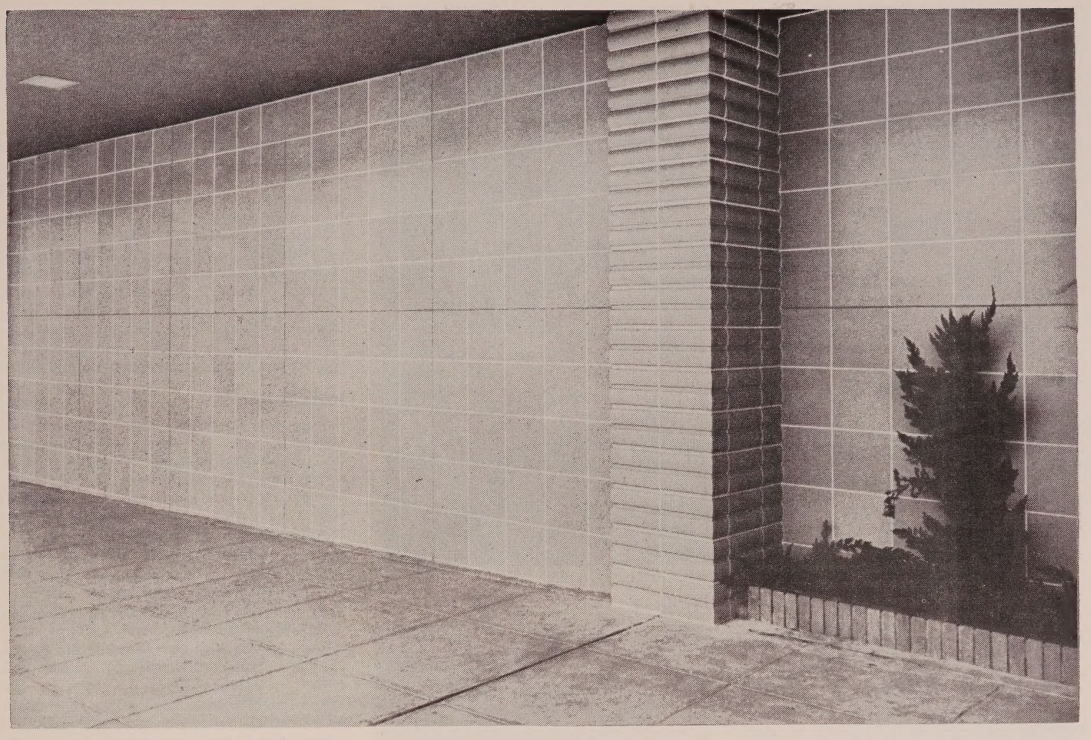
Ceramic veneer is actually a modern form of terra cotta, a material which has been used extensively as a structural architectural decoration since the days of early Greece and Rome. Even in that period terra cotta (the word is derived from the Italian and means "fired earth") was produced with ceramic glazes as well as natural finishes. Modern architectural terra cotta or ceramic veneer is both machine-extruded and handmade (moulded or pressed). The machine-made product, shaped by extruding the plastic clay through dies, is what is often referred to as ceramic veneer. Both types, however, are classed as a custom-made product and are always manufactured, numbered, and shipped for a specific location in a specific job.

Two Types

Due to its extensive use on large plain areas of modern structures, most of the facilities of the industry today are devoted to the manufacture of machine-made ceramic veneer. Throughout the country it is generally available in two forms, anchored type and adhesion type. Differing only in thickness and the manner by which they are attached to the backing, both are widely used and will be explained here.

Adhesion type ceramic veneer is commonly called "thin" ceramic veneer since the maximum overall thickness of the slab is not over 1¼ inches. The maximum face area of the individual slabs

AN EXCELLENT example of a decorative panel of architectural terra cotta located over the main entrance to new Lakewood, O., civic auditorium.



EFFECTIVE exterior use of ceramic veneer here combined with special extruded shapes to produce what is clearly a distinctive design effect.

will not exceed 540 square inches, although maximum overall face dimensions may vary through different combinations such as 18 by 30 or 20 by 27 inches. The actual face dimensions will of course vary with the manufacturer and the requirements of the job.

Adhesion type ceramic veneer requires no metal anchorage — instead being held in place by the adhesion of the mortar to the ceramic veneer body and the backing wall. The overall thickness from the face of the veneer unit to the face of the backing wall (often called "rough-to-finish") will normally be from 1¾ to two inches.

Extensive shearing tests which have been conducted on this type of veneer indicate that the shearing strengths developed by such a method of anchoring are far in excess of those required by building codes. Such codes require that a unit shearing strength of not less than 50 psi be developed between the backing and the facing. The tests which have been made indicate that average unit shearing strengths of from 138 to 174 psi are actually developed between the facing and the backing by adhesion.

Anchored type ceramic veneer is recommended where the designer desires a larger scale slab than that available in the adhesion type. Such slabs are available with ribs or scoring on the back and in thicknesses varying from two to 2½ inches. Depending upon the slab thickness, the overall dimension from rough wall to finished veneer surface will vary from three to 4½ inches in order to provide adequate grout space between the veneer and the backing. Anchor holes are provided in the bed edges of the slabs for the installation of the loose wire anchors, which, in turn, are fastened to pencil rods anchored to the backing. Once the wire anchoring is in place, the units are bonded to the wall by a reinforced grout core, keyed to the grooves on the back of the veneer units and also bonded to the masonry backing. Additional bond is sometimes provided by forming grooves in the backing wall by means of strips attached to the forms in the case of poured concrete or by raked joints or recessed courses when unit masonry is used.

Hand Made Terra Cotta

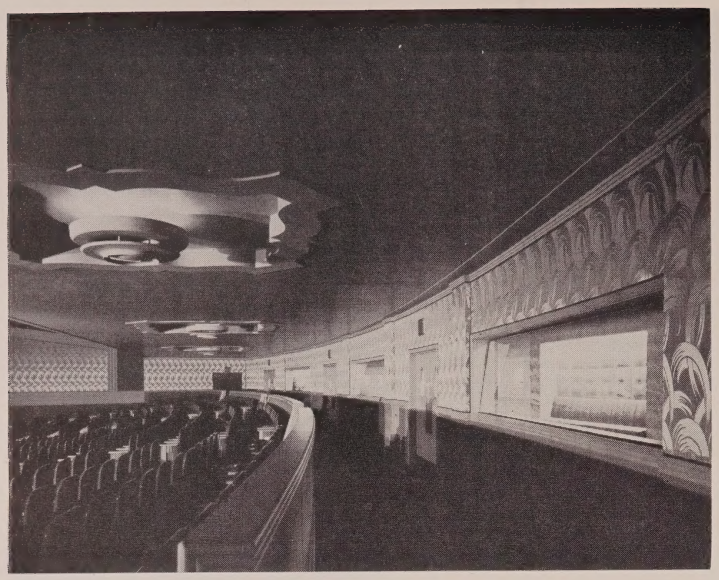
In addition to the more common ceramic veneer, there is also another form of terra cotta. That is the hand made or open back type which is used for special shapes or to form a feature of ornamentation. Practically any feature in either base or high relief or even flat murals can readily be produced from an architect's sketch, or from models furnished by the designer. The artists and sculptors on the manufacturers' staff often work in close collaboration with the architect or his sculptor creating these ornamental features which are then produced either as a unit or in segments for later fabrication on the site.

Ornamental Features

Ornamental features of terra cotta, which may be composed of any combination of colors, would include such things as commercial name panels, seals and insignia, permanent markers such as depth markers for swimming pools, and many other decorative or functional uses. Illustrated is an exterior view of a recently completed auditorium in Lakewood, Ohio. As may be seen from the photograph, the feature of the facade of the building is in the form of a polychrome terra cotta panel. Over 17 feet high and 34 feet wide, it is partially in high relief to catch the early morning and late afternoon sun. The panel is entitled "Early Settler" and depicts the raw boned Yankee who first planted the farmlands of the midwest in the tradition of Johnny Appleseed. This is but one location in a theatre where a terra cotta feature panel of some type might be used. Such panels might also be used in a purely decorative motif setting the keynote in the lobby, flanking the proscenium, or in any other location indicated by the design of the building. In contemporary architecture where relatively large plain masses often occur, they may be made to act as a very effective foil to highlight decorative panels. The degree and type of decoration possible through their use is limited only by the imagination of the designer.

How It's Made

Working either from the architect's scale drawings or the sculptor's models, full size models to shrinkage scale are first made of clay. Photographs of the models are submitted to the architect for approval, or the model may be examined at the plant. If modification is indicated,



CERAMIC VENEER may be used in a theatre auditorium. This material will normally add about one hour to the fire rating of the backing wall.

it may easily be made at this time due to the soft clay which is used in the models. After final approval of the model, sectional molds of plaster are cast. Soft clay is pressed by hand into the finished molds and then is placed in driers where most of the moisture is removed. The exposed surfaces of the dried terra cotta are then sprayed with ceramic mixture or "slip" which, during the firing process, develop into the desired color glaze. These colors or glazes are prepared with great care, according to exact ceramic formulae. The resulting variety of colors and shades which may be obtained in polychrome work opens up an unlimited field of permanent color design in architecture.

The manufacture of ceramic veneer ashlar or plain slabs is somewhat similar although obviously much more mechanized. The moist clay is extruded through a die, appearing as a continuously moving column. This moving column is then cut by means of a wire into slabs of the correct size and dried under controlled conditions. It is then ground on all edges to correct for any uneven shrinkage in drying and is sprayed with the required ceramic glaze mixture. Following this it is burned in the same manner as other ceramic products and is inspected, marked to conform to predetermined sizes established by the shop or erection drawings, and is packed and shipped at the proper time to the construction site.

Installation

The actual installation of ceramic veneer is a fast, relatively simple operation. Following is a brief outline of the steps involved in the erection of both adhesion type and anchored type ceramic veneer.

Adhesion type, as has been previously stated, requires no metal anchorage since it is held in place by the adhesion or bond of the mortar joint to the backing wall and to the ceramic unit. Its erection involves the following steps:

1. Both the wall surface and the back of the ceramic unit must be dampened before installation.

2. Immediately before setting, both the wall surface and the back of the ceramic veneer should be given a brush coat of Portland cement and water.

3. One-half the thickness of the setting mortar should be spread on the back of the unit and one-half on the wall. Both should be screened to insure uniform thickness.

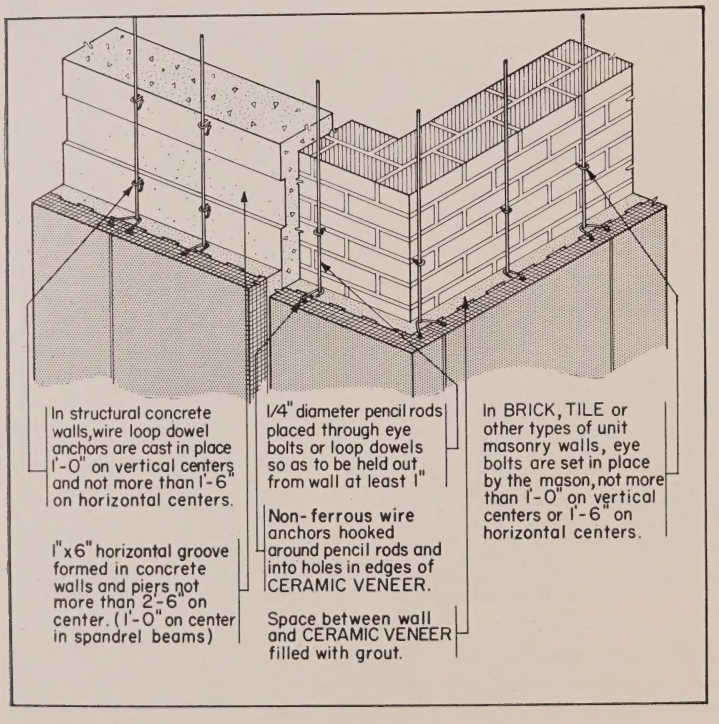
4. The unit should then be set in place. Sufficient mortar must be used to create a slight excess which will be forced out of the joints from the back.

5. The unit should be carefully leveled and tapped to fill all voids which may occur in the mortar joint.

6. Joints should be raked out and pointed later with a fine mortar or with the same mortar used for backing.

7. The surface should then be washed down with clean water. It is a good practice, as installation of the ceramic veneer progresses, to remove excess mortar or grout on the surface of the units with a cloth or brush. This will greatly simplify the job of cleaning the finished wall. When the wall is cleaned, the remaining mortar should be removed with wood or plastic tools, since metal tools or abrasive cleaning compounds might cause damage to the glaze.

Anchored type ceramic veneer, although similar in apperance, is installed in a somewhat different manner, the details of which are shown in the accompanying illustration. As indicated, it involves the use of one-quarter inch vertical pencil rods held in place by eye bolts or loop dowel anchors which in



ANCHORED type ceramic veneer is applied as illustrated. Although not shown, additional ways to anchor pencil rods to backing are possible.

turn are anchored to the backing wall. It is recommended that these vertical steel rods be spaced not more than one foot six inches horizontally and that the eye bolts or anchors which support the pencil rods be spaced not more than one foot apart on vertical centers. The following steps should be followed in the installation of anchored type ceramic veneer.

1. The anchoring system should be installed. It may be the eye bolt or loop dowel method as shown or it may be a dovetail or strap anchor or any one of a number of patented systems currently available. It is obvious that some of these are better adapted to certain types of backing walls — for example the dovetail anchor would only be suitable for use in monolithic concrete. In the event that the ceramic veneer is being installed over old work as is often done in remodeling, the eye bolt method is most often used. In this case the eye bolts are held in place by inserting rawl plugs or expansion shields into holes drilled into the existing work. The designer should always consider the ease with which the anchors may be fastened to the backing wall in selecting the system to be employed.

2. The ceramic veneer slabs should be set in place with the key webs on the back running in a vertical direction and should be secured by means of anchors inserted in holes usually located in the top of each piece. Temporary wooden wedges are often used to hold the unit at the correct distance from the backing wall.

3. When one complete course of ceramic units is in place and anchored, the grout should be poured into the space between the veneer and backing. As it is poured, it should be thoroughly puddled to remove any air pockets which might have formed.

4. As soon as the grout has sufficiently set, the temporary wooden wedges should be removed.

5. Finally the joints should be raked and pointed and the wall washed down in the same manner as outlined for adhesion type ceramic veneer.

When decorative panels are to be installed, complete erection drawings and specifications will normally be furnished by the manufacturer. Since the fabrication and erection of each panel is an individual design which often results in a great variety of anchoring and supporting systems, the method of installation of decorative terra cotta panels is beyond the scope of this article. The panels are anchored by means of noncorrosive metal wires and straps, and extremely heavy pieces are sometimes supported by structural sections such as angles or channels. It is important to completely fill with grout all voids particularly in open back terra cotta sections. This will prevent the possibility of moisture penetration which could cause damage through corrosion or through expansion from freezing and thawing cycles.

Physical Properties

Since theatre design is rigidly controlled by building codes, it becomes important to the designer to consider the physical properties of materials from a performance standpoint. Ceramic veneer will normally add about one hour to the fire rating of the backing wall. This will vary, of course, with the actual thickness of the material and the wall to which it is applied. Installed, adhesion type will weigh about 20 pounds per square foot and anchored type slightly more depending again upon the thickness of the completed job. Ceramic veneer together with its mortar backing have sufficient density to effect a certain amount of sound insulation. The sound transmission loss through two inches of ceramic veneer, for example, would be approximately 44 decibels. This means that any wall to which ceramic veneer is added will have an additional sound insulation quality. Such a feature may be important in insulating against a high exterior noise level where the theatre is to be located in a congested area.

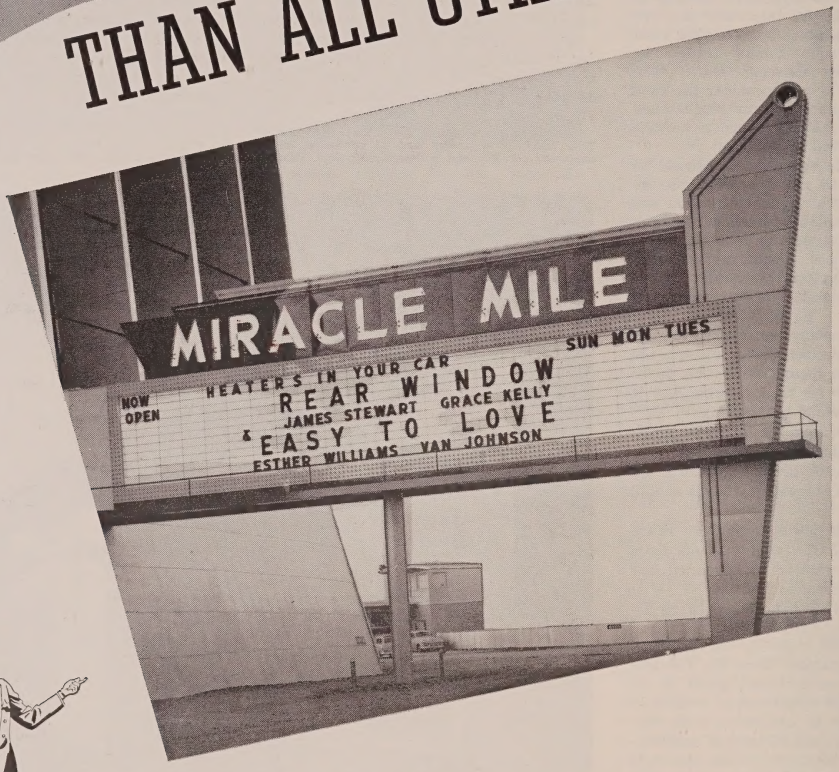
Ceramic veneer is not structural insofar as adding strength to the backing wall is concerned. While it undoubtedly does serve to stiffen certain light wall sections, it is not considered good practice to include this in the design. For additional information on either terra cotta or ceramic veneer the reader is referred to the Architectural Terra Cotta Institute, 1520 18th Street, N. W., Washingon 6, D. C.

CONCLUSION

In contemporary theatre design, there is an unlimited potential which may well capture the imagination of any architect who has such a project on his drawing board. Although terra cotta and ceramic veneer offer but one of a number of answers to such a design problem, they have recently been used to advantage in a number of theatres and auditoriums throughout the country. In the hands of a skilled designer, they become a tool through which he can find expression for his own conception of beauty without compromise. By combining plain — even stark — wall areas with colorful decorative panels, terra cotta and ceramic veneer can run the gamut from the most dignified design to the most whimsical with equal ease.

THE THEATRE of today has, of necessity, adopted the modern, clean look in its design and interior decor, as can be seen in the photo below. This trend towards simple lines offers new uses for terra cotta.

More Theatres Install Wagner Attraction Panels and Letters THAN ALL OTHER MAKES!



Your most effective, lowest cost advertising medium is a Wagner panel which is large enough for plenty of powerful sales copy formed with Wagner letters in a variety of sizes and colors to lend emphasis.

Successful showmen know that you have to bill every attraction as a big event.

Wagner Window-Type Frames can be built without limitation of size . . . a vitally important feature with drive-ins where large displays are necessary. Readily serviced without removing the frames.

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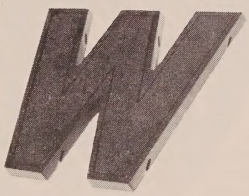
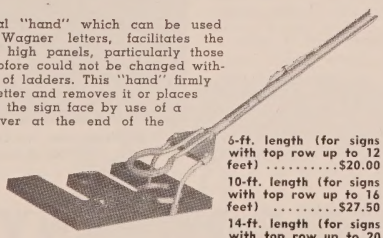
WAGNER TAPER SLOTTED COLORED PLASTIC LETTERS



The exclusive new-type, tapered slotting (Pat. Pending) causes the letter to "lock" on the bar and not be disturbed even by high winds. Yet, they're the easiest to change of all letters.

Wagner's slotted method of mounting prevents freezing to the sign. The widest range of sizes and colors. Available in 4", 6", 8", 10" and 17" sizes in gorgeous red, green, blue, amber and black. The non-fading, jewel-like colors go all the way through the letters, hence cannot chip or scale. These strong, durable letters never require painting or other maintenance. Wagner letters are the only plastic letters that can be stacked for storage without danger of warping.

MECHANICAL "HAND" LETTER CHANGER



A mechanical "hand" which can be used only with Wagner letters, facilitates the servicing of high panels, particularly those which heretofore could not be changed without the use of ladders. This "hand" firmly grasps the letter and removes it or places it straight on the sign face by use of a tensioning lever at the end of the handle.

6-ft. length (for signs with top row up to 12 feet) $20.00
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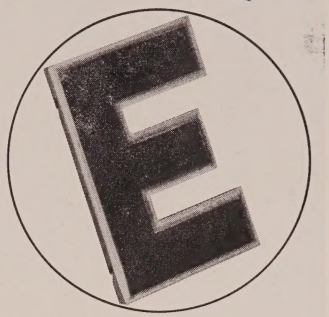
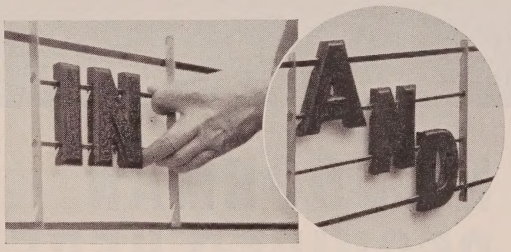


WAGNER FLEX-WORD FRAMES



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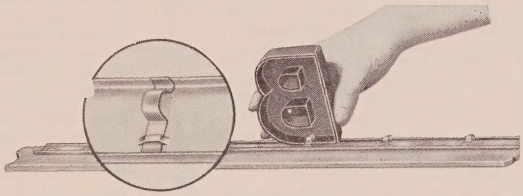

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These letters can be set up on narrow ledges, and many places where no other display equipment can be used, by means of Wagner stainless-steel mounting strips which have clips for holding letters in position.

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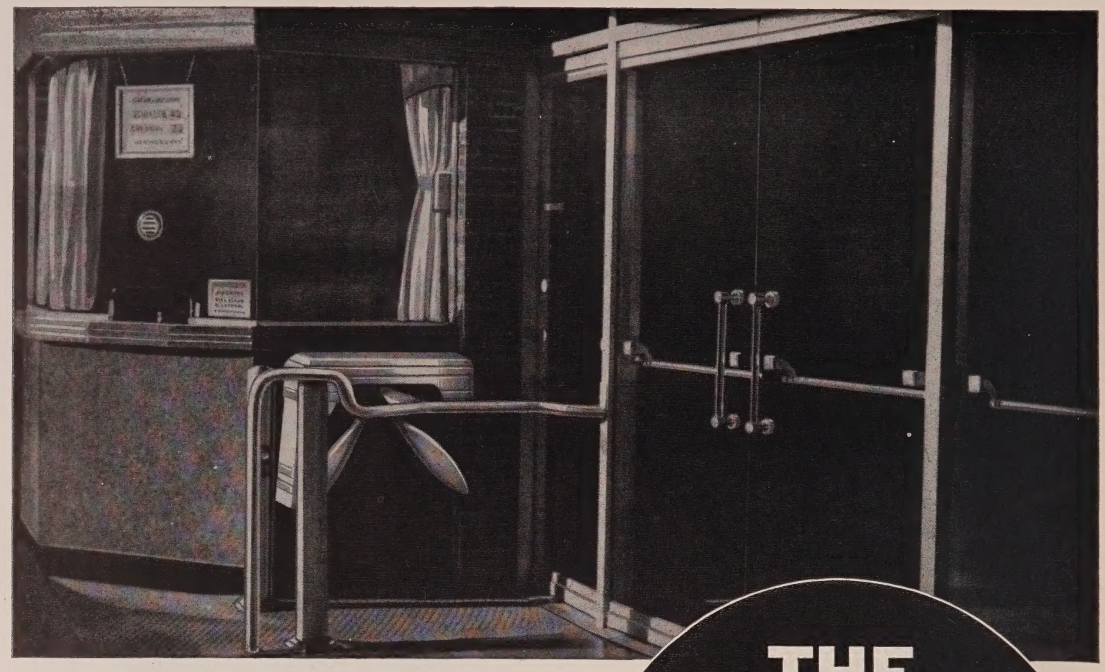

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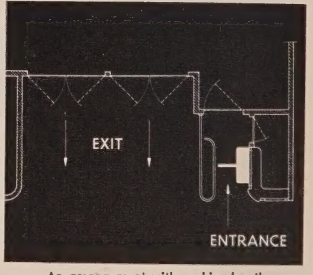

An arrangement with cashier booth at side of lobby.

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6 ft.	23"x16"	22½"	24"	10' to 11'6"	11'6" to 12'6"	41¼"	9'-1"	38 lbs.
8 ft.	23"x16"	25¼"	26½"	12' to 13'6"	13' to 14'6"	50½"	10'-1½"	48 lbs.
10 ft.	23"x16"	27¾"	29"	14' to 15'6"	15' to 16'6"	61"	12'-8¼"	57 lbs.
12 ft.	23"x16"	31½"	34⅛"	16' to 17'6"	17' to 18'6"	76¼"	15'-5⅞"	70 lbs.

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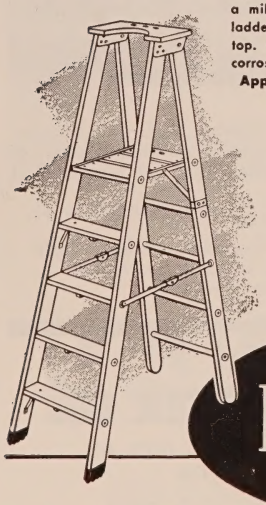

Height to Platform

	Front Side Rail
4' to 12'	25/32"x3¼"
14' to 16'	1 1/16"x3¼"
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4' to 12'	25/32"x2¾"
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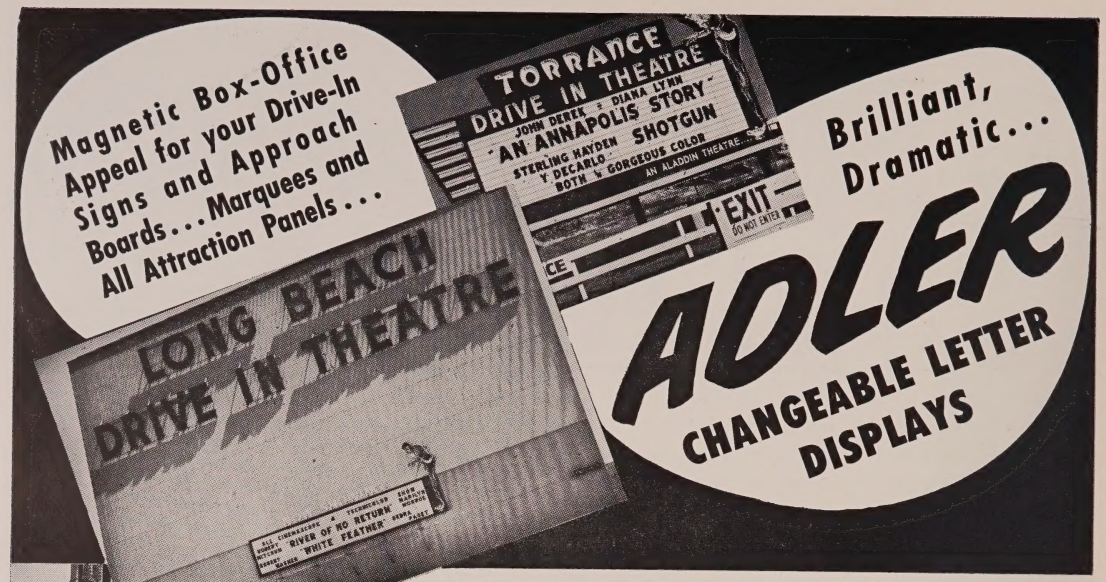

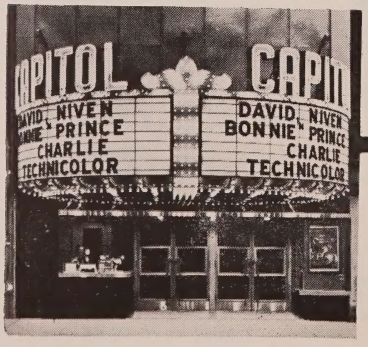

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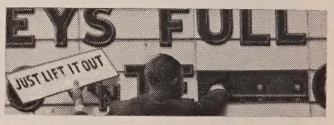

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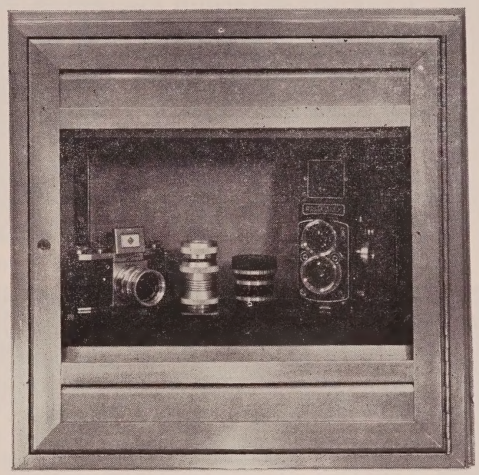

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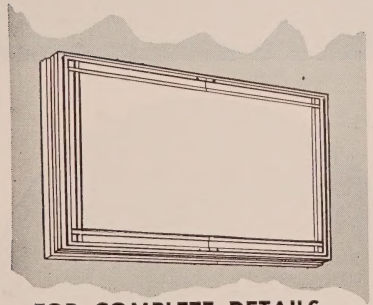

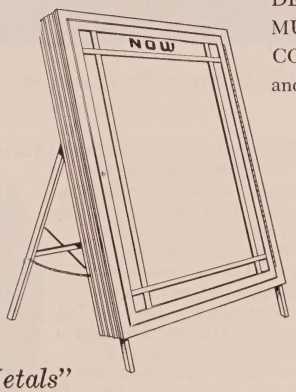

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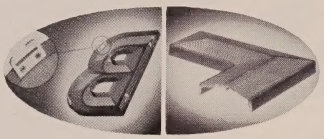

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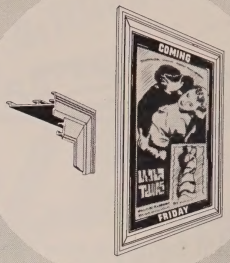
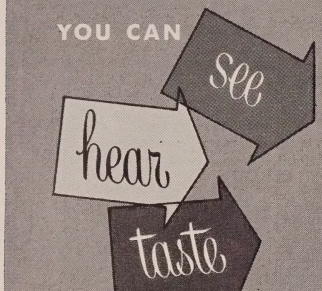


The attractive new Bevelite case is strongly constructed of one-piece extruded aluminum section. Translucent plastic light shields hold letters for changeable copy. Poster holders are on four sides. Door glass set in Neoprene rubber.



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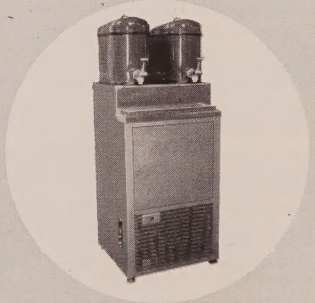

The new Bevelite Fountainette has a compact, all steel cabinet only 22" wide, 21" deep, with access to all moving parts from the front. The new all dry, fully automatic cooling system, no water baths, no ice banks, has amazing capacity.

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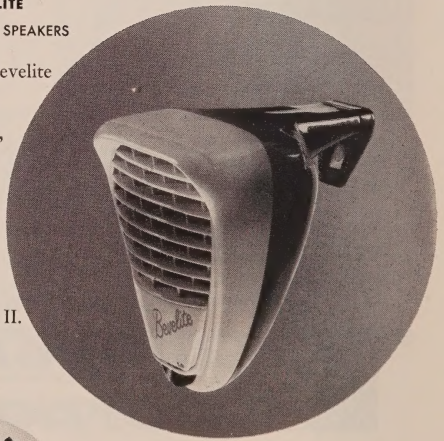

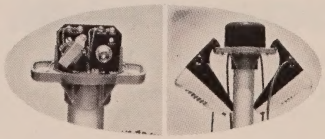

INDIVIDUAL BEVELITE 4" SPEAKER	ILLUMINATED JUNCTION BOX WITH DOWNLIGHT	SINGLE POST UNIT COMPLETE WITH JUNCTION BOX AND TWO SPEAKERS
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INTERIOR *and* AUDITORIUM

1955-56

Seating for the Wide Screen

A Study of Some Factors to be Considered When Determining Theatre Seating and Sight Lines, and Their Application to the Wide Screen

By WALTER E. DUNN
Century Theatres

BRIEF: ***At this stage most exhibitors have had a chance to study . . . and experiment with the various wide screen systems available . . . and have installed the necessary screens and projection and sound equipment . . . In many cases . . . the theatre operator did not have sufficient time to adjust his seating to the wider screen . . . thus causing the loss of many seats in the orchestra . . . With the situation a bit more settled now . . . and with theatre remodeling on the upswing . . . this article . . . prepared by the technical head of one of the leading circuits . . . offers some sage advice about theatre seating . . . and its application to the new processes . . . The reader will find information about seating arrangements . . . what to do about the front rows in orchestras . . . the new approach to be taken when determining sight-lines . . . floor slope and pitch . . . and other subjects of similar importance.***

Two years ago the motion picture industry, through the introduction of CinemaScope, started a new era in the presentation of motion pictures.

CinemaScope brought to light the fact that most theatres throughout the country were operating with very small screens which we refer to today as "postage stamps."

Because of CinemaScope and the resulting changes in standard picture sizes, the exhibitor made every effort to bring to his patrons the very best in projection and sound reproduction. Many theatre owners made structural changes to accommodate the largest screen possible; stereophonic sound with side wall effect speakers were installed in a good number of theatres. In many theatres new hi-speed projection lenses, as well as changes in projectors, rheostats, generators and lamphouses were required.

Now that the techniques of projection and sound have leveled off somewhat, some attention must be given to other aspects of the theatre that have a direct relationship to patron comfort and what can be more important to year 'round patron comfort than theatre seating.

Old Standards Altered

The innovation of projection techniques with particular emphasis on wide screen processes has, to a great extent, altered the old standards of theatre seating. The old, somewhat squared off picture based on a 1:33 to 1:00 ratio, is now almost non-existent.

The focal point of attraction on the screen, which heretofore covered a small area of the stage, now in most instances covers the entire stage proscenium width. It must be kept in mind, however, that even with the wide screen in use most of the action on the screen is confined to the center portion of the screen.

Theatres which formerly operated with a standard picture of anywhere from 18 to 24 feet wide, have now increased their picture sizes from 24 feet to 30 feet in width. For CinemaScope, based on structural limitations and seating sight lines, picture widths in the same theatres vary from 36 feet to 45 feet. The height of the picture in most cases has increased slightly to give a better overall proportion of height to width. Naturally the important factors in determining the picture height and width are the seating sight lines and the proscenium opening.

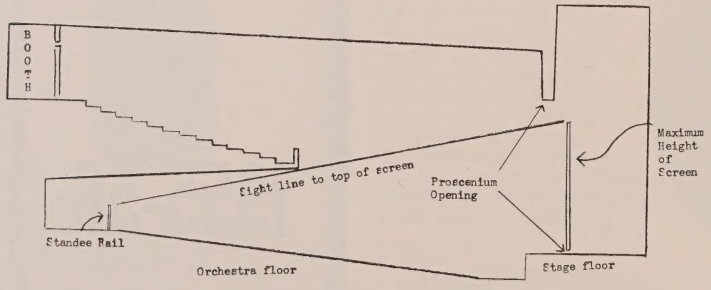


ILLUSTRATION I

ILLUSTRATION I demonstrates the importance of closely checking the overhang of the balcony and loge in determining the picture height so that patrons in the last few rows have an unobstructed view.

Sight Lines

Referring to the sight lines for the moment, the most critical point in a balcony type house would be the first and last few rows of seats in the orchestra. The overhang of the balcony or loge must be closely checked in determining the picture height so that patrons seated in the last few rows have a clear and unobstructed view of the top of the picture. (Illustration I.) If at all possible, consideration should be given to standees, so that they too can see the entire picture. Sight lines also will determine the picture width.

In the case of a stage type theatre where structural limitations require the screen be installed within the confines of the stage, the nearer the screen to the seats, the better the sight lines. The further back toward the rear wall the screen is installed the greater the loss in screen width and the greater the chance of losing some side wall seats. Illustration II indicates the differences in screen width based on complete and unobstructed vision from the extreme side seats.

Now that we have discussed the governing factors to determine picture sizes, let us more closely associate the relative importance of theatre seating.

Relative Importance

The closer the screen to the auditorium proper the greater the loss of front orchestra seats. Based on the old picture size, the distance from the screen to the first row of orchestra seats was pretty well established as 1W (width of picture). If the old picture width was 24 feet, the distance from the screen to the first row of orchestra seats was kept at approximately 24 feet. Under the old standards the first few rows of orchestra seats were not the choice ones, however, at times, particularly under pressure business, they were occupied even if only until more favorable seats were available.

Today, with the wide screen mainly in use with such processes as CinemaScope, Superscope and VistaVision, the loss of the first few rows of orchestra seats is evident. Were we to follow the old rule of 1W, it is conceivable that some theatres might require a clearance of as much as 45 feet to 50 feet from the screen to the first row, based on the overall picture width.

It has been recommended that the figure of 80 per cent of total screen width be used to determine the distance to the first row. This appears to be a reasonable figure in view of the fact that the average theatre cannot afford the loss of too many front orchestra seats.

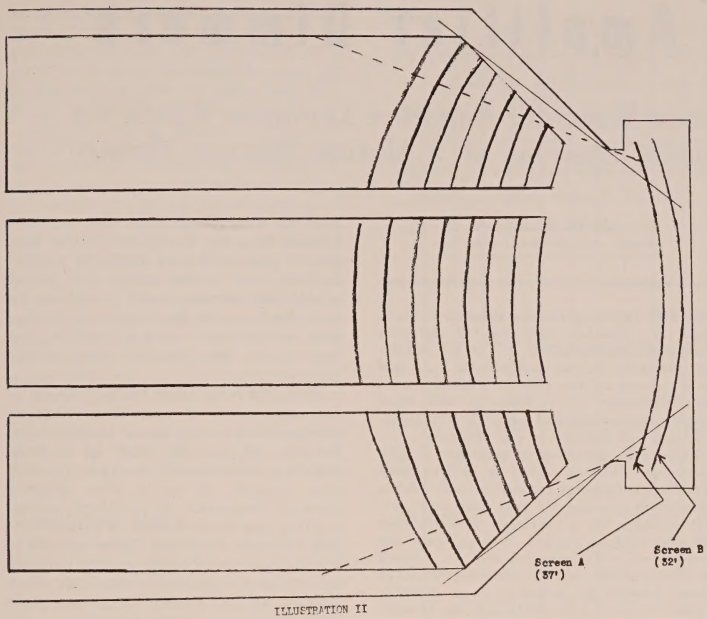


ILLUSTRATION II

ILLUSTRATION II shows the proscenium opening at approximately 44 feet. Note that the maximum screen available is based on a complete and unobstructed view from the extreme side seats. It should be pointed out that an approximate picture size of 42 feet is available in this particular case. However, those persons seated in the several extreme side seats will not be able to see the end of the screen.

Do Not Remove Front Seats

In the case of existing theatres we do not advocate the removal of front orchestra seats due to wider screens, for there are times when the seats can be occupied. These seats are not favorable when full screen width is employed, however, when standard pictures are shown, they become more desirable.

The use of wide screens has accentuated the use of the center of the theatre for audience mass. The further the seat to the side wall the less desirable it becomes. Most wide screens in use today, whether it be from the screen itself or lack of projection light, have an objectional drop off of light when viewed from the extreme sides of the theatre. This, of course, means that when reseating the theatre careful consideration should be given to the elimination of side wall seats and the installation of side wall aisles in order to bring the seats closer toward the center. This will depend a great deal upon the physical structure of the theatre, for it is possible to lose seats by creating side wall aisles.

Seating Arrangements

The use of staggered seating plays an important part in reseating the theatre. Several different methods of staggered seating have been used in the last several years and all have proven acceptable.

It must be remembered that the width of the seat is extremely important to patron comfort. Wherever possible, every effort should be made to utilize 21 inch and 22 inch seats. In order to utilize 21 inch and 22 inch seats under the stagger system, the use of double arm blocks and standards is essential.

Double Arm Block

The use of the double arm block stagger system will result in even aisles, but it must be pointed out that aisle indentation has now become an acceptable practice. Aisle indentation can be eliminated by the installation of wide arm boxes. These boxes, made of the same wood and in the same finish as the remaining arm blocks, can be installed on aisle standards to retain continuity of the aisle.

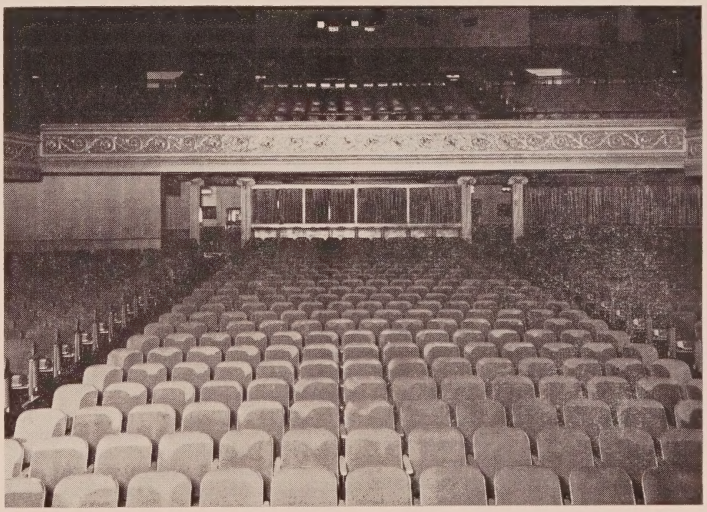
The use of the double arm block arrangement means that every other row has one seat less than the row to the front and rear. This can best be illustrated by illustration III. As shown in illustration III, 21 inch and 22 inch seats were used in the center bank of seats. Off center banks of seats, because of their angle toward the center of the screen, will in most cases require little or no stagger, however, it might be advisable to utilize 20 inch and 21 inch seats in these areas. Even aisles will result and the number of seats in each aisle will remain constant.

Slope

When reseating the theatre, the slope or pitch of the auditorium floor as well as the back-to-back spacing will determine the amount of stagger required. The old back-to-back spacing of 32 inches is gradually becoming a thing of the past. Wherever possible, a minimum of 36 inches back-to-back spacing should be utilized, and if loss of seats permits, a distance of 38 inches to 40 inches should be employed. In order not to lose too many seats, the less desirable seats in the front orchestra could be spaced at 32 inches to 34 inches.

The use of the push back type chair, allowing a person to slide the seat back to permit others to pass by, requires less spacing than the fixed type seat.

When planning the seating installation in a newly constructed theatre, it is advisable to consult both with the architect and a representative of the seating company to determine the proper orchestra floor pitch, aisle location, back to back spacing and stagger.



IN THIS installation, 21 and 22 inch seats are used exclusively through the center bank. Because of the pitch of the auditorium floor it was possible to have the first eight rows of the auditorium non-staggered, and retain an even number of seats in each row, and the efficient double arm block was then used.

Magnetic Amplifier Dimmers

A Thorough Description of Magnetic Amplifier Dimmers Which Go Into the Lighting Control Systems of a Motion Picture Theatre

By R. A. Logan
Dimmer Sales Manager, Vickers, Inc.

BRIEF: ***Lighting control systems in theatres . . . whether they are for use with live stage presentations . . . or for proper illumination in the auditorium . . . and other areas of the theatre building . . . are necessary . . . One of the most important component parts of any lighting control system is the dimmer . . . This article describes a magnetic amplifier type dimmer which is said to help produce a lighting control system with a minimum amount of cost and care . . . In addition to a thorough investigation of the various factors that go into the design of a dimmer control . . . there is also a discussion of some of the other parts needed to install a good lighting control system . . . Although the theatre operator is not expected to be an expert in all the facets of this subject . . . it could help the exhibitor to get more for his money when installing or improving his lighting controls . . . if he does have some knowledge of what goes into the make-up of these systems . . . This is what this article attempts to accomplish.***

Vickers reactance dimmers, of the magnetic amplifier type, provide the major elements for producing a lighting control system of outstanding performance at minimum first cost—a system that will require little or no maintenance.

Basic Element

The basic dimming control element is the Vickers self-saturating power magnetic amplifier of the ac output type. This type of magnetic amplifier differs from the simple saturable reactor in several important ways:

1. The number of ampere turns required to control the self-saturating magnetic amplifier is less than two per cent of the number required to control a simple saturable reactor of the same rating.

2. Because of the 98 per cent fewer control ampere turns required, the speed of response of the self-saturating magnetic amplifier is much higher than that of a simple saturable reactor of the same rating.

3. Because of the smaller amount of space required for the control winding, the self-saturating magnetic amplifier is smaller than a simple saturable reactor of the same rating.

Control

The self-saturating power magnetic amplifier is controlled by a static pre-amplifier, which includes feedback networks for load regulation and for shaping the curve of preset position vs. lamp voltage. The circuit diagram of a single dimmer is shown in elementary form in Fig. 1.

Control of the pre-amplifier is by means of a small potentiometer connected across a 12-volt ac source. The current required from the 12-volt ac control power supply is 0.020 ac amperes (control current) for each dimmer unit, plus 0.048 ac amperes (bleeder current) for each preset intensity-control potentiometer.

The Vickers magnetic amplifier dimmer control circuit is readily adaptable to lighting control systems requiring great flexibility and versatility in mastering for special effects. Features which are easily incorporated include preset lamp intensities in lighting arrangements for two or more scenes; group and scene mastering; and scene-to-scene fading. Fig 3 is a simplified circuit diagram of fader control used to insure smooth transition of preset light intensity from one scene to another.

Since only milliwatts of control power are required, very small control devices can be used. Large numbers of these small controls can be contained within a compact pilot board that can be operated by a single person. The compactness of the pilot board permits its location in any small area providing a satisfactory view of the stage. The power equipment (dimmer units, transformers, etc.) need not be installed in the stage area, where space is at a premium, but can occupy less valuable space remote from the stage.

These features allow the pilot board to be constructed in whatever physical arrangement is best suited to the chosen location. It can be built as a free-standing switchboard, as organ or desk type console, or as a wall mounted cabinet. Duplicate or auxiliary control stations can be furnished to extend control to other locations. These secondary stations can be of stationary or portable construction, and can extend all or a portion of the control from the main pilot board to the desired location.

Theatre Applications

For the theatre offering stage presentations as well as motion pictures, it is often desirable to control the lighting from both the stage and the projection room. This is readily accomplished by extending control of any or all circuits

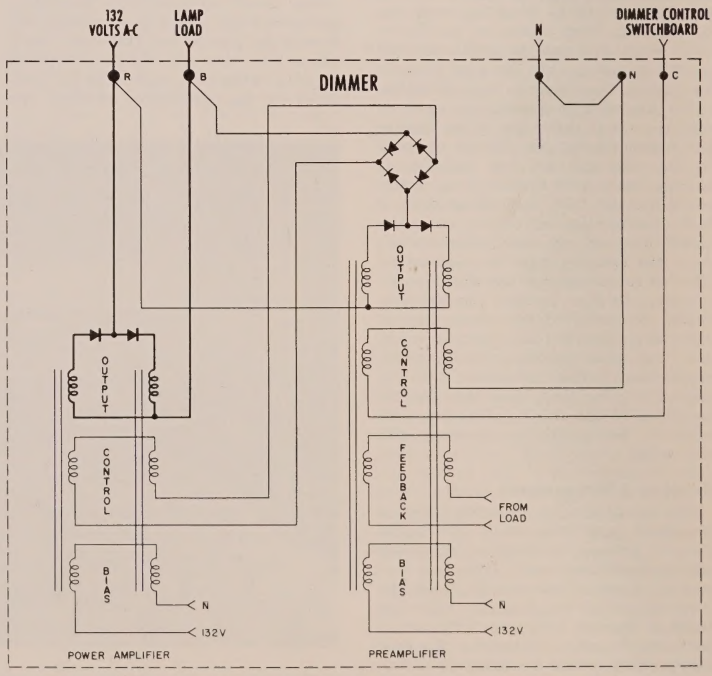


FIGURE 1.

to an auxiliary station in the projection booth. Where a considerable number of individual circuits are controlled, it is more economical to duplicate only the master controls for the stage and auditorium lighting in the booth station.

For the motion picture theatre, control of the light intensity in lobby, foyer and auditorium can be used effectively to obtain proper illumination levels during picture projection and intermission periods. For this application, only one control device is required for each dimmer circuit. A master to control these circuits in any combination can be provided. Since only a few controls will be involved, stations duplicating all controls can economically be furnished for such locations as the projection room, managers office, etc.

Where desired, or required by law, a "panic switch" can be incorporated in the dimmer system to bring certain groups of auditorium lights to full intensity regardless of dimmer control setting.

Completely Static

The two-stage magnetic amplifier used in the dimmer eliminates all electronic tubes and moving parts, and with them, the problems and limitations they impose. The completely static components provide reliability and freedom from maintenance.

Standard Sizes

These dimmer units are made in 15 standard sizes, from 1.0 KW to 25.0 KW. All components of standard dimmers are completely wired and assembled as a unit, on mounting rails. The units are easily fastened to an angle-iron framework, or other type of rack, suitable to the desired number of dimmer units, and the space available for the installation. Terminals are provided for the connection of outgoing power and control wiring.

Standard units are of the convection-cooled type, designed for continuous operation at full rated capacity without exceeding a temperature of 55 degrees C. Total heating loss in a dimmer unit is less than five per cent of the rated load watts.

Range

To provide the flexible capacity necessary to control varying values of lighting load, standard Vickers dimmers have been designed to provide uniform operation with any load between 10 per cent and 100 per cent of full rating. Within this load range, the variation in dimmer output voltages does not exceed three volts ac at any points on the dimming curve (above 10 volts).

By means of the control potentiometer, any desired output voltage may be selected, in less than one per cent steps, between the following load and voltage range limits:

Load	*Output Range*
100%	6 volts to 120 volts
10%	10 volts to 123 volts

The output voltage does not surge, sag, or oscillate during operation of the control potentiometer, or with application or removal of load.

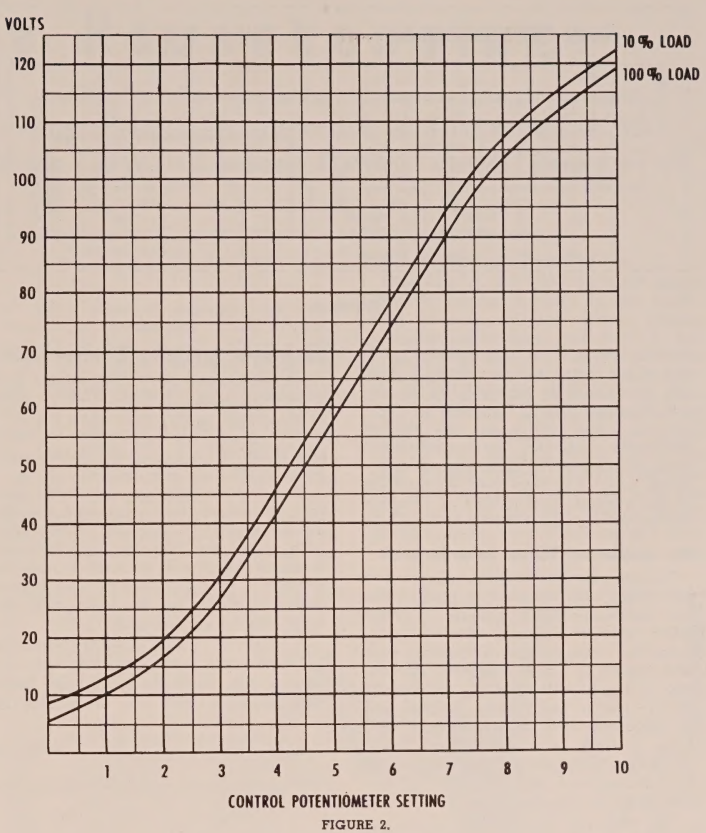


FIGURE 2.

It is possible to adjust the dimmer units so that, with equal loads, the output voltages of all units within a group will match, within ±3 volts ac, when the controls of all units are placed at the same setting.

Characteristic curves of control potentiometer setting vs. lamp voltage obtained at 100 per cent rated load, and at 10 per cent rated load are shown in Fig. 2.

Where the requirements of a theatre are such that this standard 10 to 1 range of dimming capacity is not needed to take care of varying load conditions, more economical designs are available which will lower the dimmer range to actual load requirements. Also available are designs which extend the range of the dimmer so that loads of less than 10 per cent of full rating can be dimmed to "black-out."

Response

The use of self-saturating magnetic amplifiers gives these reactance type dimmers extremely fast response to changes in control settings—response far faster than can be obtained with dimmers employing simple saturable reactors. For example, the time required for a lamp controlled by a Vickers dimmer to dim from full bright to blackout does not exceed by more than 0.1 second the time constant of the lamp itself.

Primary Power

To obtain 120 volts across the lamp load at full bright, it is necessary to raise the line voltage across the dimmer and load from the customary 120 volts ac to 132 volts ac. This increase is necessary to compensate for voltage drop across the reactor.

The required 132 volts ac is usually obtained by means of booster transformers. The kva rating of these transformers should be at least 115 per cent of the connected kw lamp load. This rating is determined by the 10 per cent voltage boost required to compensate for the reactor drop, plus the amount of heating loss in the dimmers. Autotransformers usually are used for this purpose, as they are smaller, and cost less, than two circuit transformers of equal rating and efficiency. For large installations, the preferred power supply service is three-phase, four-wire, with one or more booster transformers connected in each phase. The dimmer units will operate uniformly when connected to any phase of a multiphase system.

Theatre Installation

These booster transformers can be omitted from theatre installations when lamp spacing is such that the desired light level is achieved with approxi-

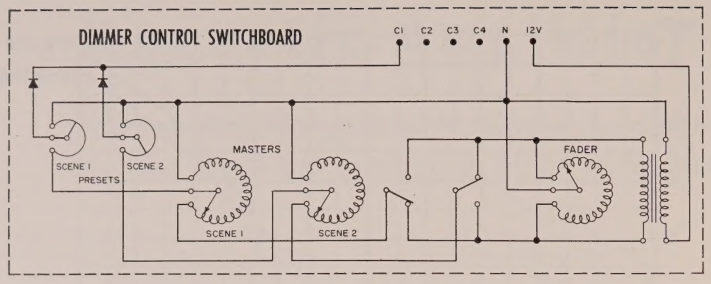


FIGURE 3.

mately 108 volts at the socket. Operation of the lamps at this reduced voltage will increase their expected life by several thousand hours. The theatre operator can take advantage of reduced equipment cost and lamp replacement costs by considering this type of installation which has been used successfully in the general illumination of churches and in the corridor lighting of hospitals.

No Audio or Video Interference

Vickers magnetic amplifier dimmers do not create interference with audio video and communications systems. Certain other types of dimmers require special corrective equipment to reduce such interference to a tolerable level. Generation of the higher harmonic frequencies is very low in the Vickers dimmer, and is especially low in comparison with types of dimmers using electronic tubes. No audio interference can be detected by a microphone placed as close as two feet from the dimmer.

The radiated flux of the dimmer, by actual measurement, has been found to be 15db less than that of a variable autotransformer type dimmer of the same rating. This extremely low flux radiation is achieved by the design of the magnetic amplifier, which incorporates high-quality magnetic core material and small compact coil windings, which help contain the magnetic flux within the core structure.

Master Intensity Control Units

For master and fader control, the individual intensity-control units require variable autotransformers having an input of 12 volts ac, and an output of 0-12 volts ac. The current capacity of each variable autotransformer is determined by the number of dimmers, preset controls and sub-masters controlled by the transformer.

Vickers mastering and fading units are available in three current capacities. Contact surfaces of the toroidal windings of the autotransformer are surfaced with silver, minimizing resistance and corrosion. The self-lubricating carbon brush, which provides the movable contact for continuous, stepless adjustment moves smoothly over the silvered surface. Uniform contact between brush and contact surface is maintained by spring pressure.

The black plastic cover is mounted on a black faceplate. These master intensity control units can be installed from the front of the board.

Individual Intensity Control Units

To control and preset the intensity of individual lamp circuits, Vickers dimmers require a 250-ohm linear potentiometer of sufficient capacity to carry the combined control and bleeder currents, a total of 0.068 amperes.

The Vickers individual intensity control unit is of the wire-wound potentiometer type. The assembly is available with either the 250-ohm potentiometer designed for 12-volt ac control circuits, or with a potentiometer of a resistance value specified by the customer, for other control applications.

A small, dry-plate rectifier is used as a "valve" with each individual intensity control unit, to obtain operational isolation between units and to provide dc control current. This must be a half-wave rectifier having the following characteristics:

Inverse Voltage rating—12 volts ac
Forward Voltage rating—0.7 volts dc
Half-wave dc current rating—0.015

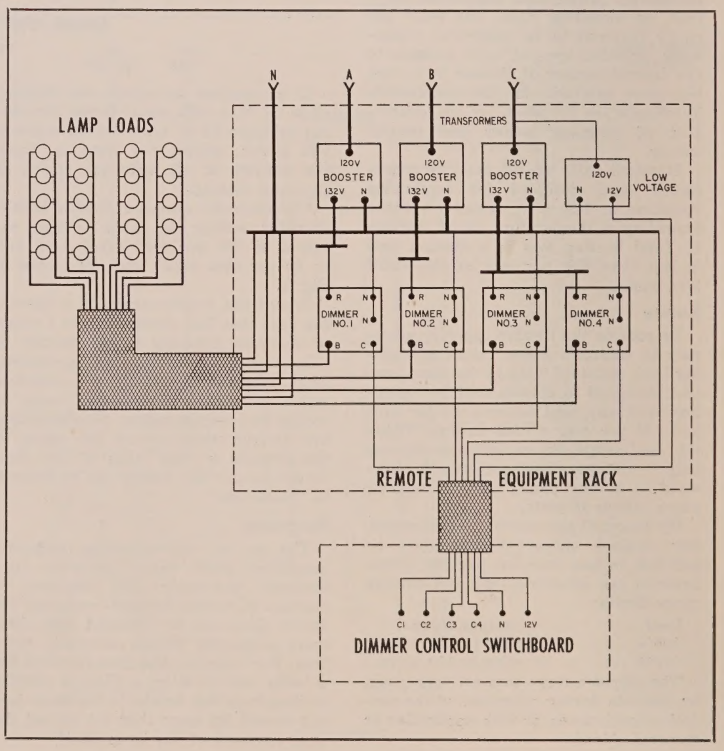
Vickers individual and master intensity control units are designed to meet the need for versatile, high-quality control components at reasonable cost. Both control units are compact and easily mounted in varied positions and groupings in all types of boards. Matched in appearance, the attractive functional styling of both units emphasizes operator convenience, providing easy readability and smooth positive positioning.

Indicating Dial

The indicating dial is of the slot-closing type, enclosed in a black plastic cover with gold pointer. The dial is of gray, translucent plastic, with black calibrated scale and numbers engraved for easy reading and durability. The cover is easily removed to replace bulbs. The operating lever is convenient to grip from any position, is fastened directly to the drum. Levers can be color coded if desired.

Units can be installed or removed from the front of the board. All terminals are conveniently located for either pre-wiring to a plug-in connector, permitting their installation to be made entirely from the front of the board, or for wiring from the rear of the board after units are mounted.

FIGURE 4.



Theatre Housekeeping

A Guide to Staff Training, Proper Organization and Equipment Necessary to Keep Your Theatre Looking Its Best at All Times

By BERNARD T. KELLY, R.S.
Assistant Executive Secretary
National Sanitary Supply Assoc.

BRIEF: ***One of the most important things in the operation of a successful theatre . . . whether it be a center city palace or a fourth run neighborhood situation . . . is proper cleaning and maintenance of the exterior and interior areas of the building . . . The public will no longer stand for theatres that are dirty and poorly cared for . . . This article describes how the theatreman can best organize and train his existing maintenance help so that he may get the maximum amount of efficiency from what he has to work with . . . There are suggestions on how to set up regular work sheets and assignments . . . how to train staffs . . . how to properly plan cleaning schedules . . . etc. . . . There is also specific information . . . and suggested methods of how to clean windows and glass . . . auditoriums . . . restrooms . . . lounges . . . how to properly sweep certain areas . . . etc. . . . all based on the years of experience of the author and the organization that he represents.***

A recent survey completed by the American Automobile Association over a three-year period, compiled criticisms reported by travelers. Finding fault with the hotels of the nation . . . only 14 per cent of the total gripes received were on the rates charged . . . only 10 per cent on the food served . . . but complaints against housekeeping came in for a whopping 24 per cent. In motels, the complaints against housekeeping ran a high 26 per cent.

The American public is demanding cleanliness. They are used to clean, well-furnished homes. They enjoy their television among clean surroundings . . . why then, expect them to be happy with ill-kept premises of the local theatre?

A casual survey of a few theatres has shown us that almost every theatre manager has one important question to ask when we begin talking about theatre cleaning. *"How can we obtain better results from our cleaning effort?"*

This question is, in turn, based on three underlying thoughts. (1) A consciousness of the need for better theatre cleaning. (2) A hesitancy to undertake any action which might possibly result in an increase in the cleaning budget. And, (3) a belief that present cleaning manpower can in no way be stimulated to do a better job. We hope to show here that better cleaning can be readily obtained through proper planning, supervision and training; and at present budget levels in most cases.

Planning the Cleaning Program

Few theatres have a well-planned program for their cleaning maintenance. Most theatres do have a general outline of their cleaning schedule but, the *details* are overlooked. That is how inefficiency comes in and dollars go out.

It's the many *overlooked details* in the cleaning program that cost money. They cost from the standpoint of increased "get-ready" time for cleaning, in the letdown in the attitude of the cleaners, in the growth of the idea of doing just as much work as is necessary to "get by." And the resulting heavier soil that accumulates makes each succeeding day's job a little harder as well as accelerating your property's depreciation.

Thorough Planning Key to Better Cleaning

Planning is the basis for your entire cleaning results. It must be the beginning of your cleaning efforts. Proper planning takes time, but once it has been accomplished it will repay you over and over again. The most commonly accepted way to begin your planning is to make a complete survey of your entire property. Have your maintenance man make a listing of all the main cleaning phases. Go over the listing with him to be sure you have not missed any of the work. Floors, walls, ceilings, doors, washrooms, lounges, box-office, display windows, etc., and the

METHOD OF MAINTENANCE RECOMMENDED

AREA	METHOD	FREQUENCY
ASPHALT TILE 90,625 SQ. FT.	SWEEP DAILY	26 TIMES PER MO.
	WET MOP & RINSE WEEKLY	3 TIMES PER MO.
	MACHINE SCRUB & VACUUM MONTHLY	1 TIME PER MO.
	WAX, ONE COAT & BUFF	1 TIME PER MO.
	STRIP & REWAX - 2 COATS - BUFF	TWICE YEARLY
TERRAZZO 45,000 SQ. FT.	SWEEP DAILY	26 TIMES PER MO.
	DAMP MOP DAILY (CAN USE DILUTE NEUTRAL CLEANING SOLUTION)	22 TIMES PER MO.
	WET MOP AND RINSE WEEKLY	4 TIMES PER MO.
CARPETING 28,350 SQ. FT.	HAND (SPOT) VACUUM DAILY	22 TIMES PER MO.
	COMPLETE AND THOROUGH VACUUMING WEEKLY	4 TIMES PER MO.
	SHAMPOO EVERY 6 MONTHS	
WALLS 60,000 SQ. FT.	WASH EVERY 6 MONTHS	TWICE YEARLY

approximate area covered by each should be listed. List floors and their areas by the type of flooring. Next decide upon the plan of care desired for each type of surface to be cleaned. For example: The auditorium floor, usually concrete, would normally require daily sweeping and a mopping probably once a week. Carpeting normally requires daily spot vacuuming with a thorough vacuuming once a week; complete cleaning and shampooing two or three times per year is usually necessary, depending upon the amount of traffic and activity borne by each area. Consider in this manner, each area and type of surface to be cleaned and you will have an informative listing which not only starts your planning in the right direction but also will be of great assistance to you in the purchasing of supplies and equipment for your cleaning program.

Next, the time required for actual cleaning of each area should be determined. Your staff should go through all of the cleaning operations while you obtain a time record for each particular operation.

After all areas and surfaces to be cleaned have been listed and the manner in which they are to be cleaned has been decided upon, a study of the amount of traffic and degree and type of soil normally encountered in each area will enable you to estimate a schedule for the frequency of cleaning needed. You can then make up a worksheet showing the areas, methods of cleaning each area and the frequency of each operation.

Using the approximate working times developed by your maintenance staff, you can then develop worksheets for all daily, weekly, monthly, and semi-annual operations. By restating these estimates on an annual basis, you can arrive at a good approximation of the total number of hours required for the entire year's cleaning program . . . for these main operations.

You will also then be able to calculate the approximate number of workers that will be needed to carry out the planned program. *And you will probably find that you will have sufficient personnel on your present staff.* Our own surveys of theatre properties show that, in most cases there are sufficient cleaners to keep the theatre sparkling, but, in our opinion, housekeeping falls down because there is not sufficient supervision of the housekeeping job. To get full value for the housekeeping money you spend, you must have good supervision.

PROPER SUPERVISION

Good supervision begins with the relationship between the theatre manager and the maintenance chief; he must be a definite part of the management team. He must know that he is to be fully responsible for all phases of the cleaning program. And he must be properly instructed in the manner in which you want the work performed. It will be his job then to instruct the other cleaners in the proper work methods and to supervise the complete operation.

Hold Meetings

To help start the new program it is advisable to hold meetings of your cleaning staff to acquaint them with your objectives, and to stress upon them that the new program will not mean an overload of work but will mean better working conditions, individual responsibility with the corresponding opportunity for individual advancement, and better methods of work. With the planned program, actual fatigue can be reduced and the work made easier.

The problem of theatre attendance should be brought to their attention. It should be pointed out that their jobs do depend on public attendance at the theatre. If the theatre is not kept in a clean, healthy manner, attendance cannot be maintained nor increased. Show them how important their work is, and perhaps they will begin to understand their jobs and to take pride in doing their work well. If a man has the proper training in his job, adequate tools to do the work, and the physical ability required, he will be a good worker. The only excuse for poor quality work will be laziness and that should be quickly discovered by good supervision. The maintenance chief must know every job and demonstrate to those under him that he is capable and deserving of the job. He must know how to get along with people and command their respect. He must be able to work with his men and at the same time supervise and lead them in the best performance of their work.

BY MAKING a thorough analysis of the cleaning jobs that must be done, and then breaking them down on a chart, staff efficiency will improve.

Group Work

One means for raising the spirit of your cleaners, which reportedly is successful, is to work the cleaners together in a group on every operation where it is possible. Group work makes for happier work. And, as important, it gives the workers close, helpful supervision. The lazy worker of the group can be quickly detected. If attempts at getting him to keep up with the rest of the group fail, then he should be replaced. When hiring new workers, be sure applicants are advised of your program and the importance you place upon the job to be filled. And, let your maintenance chief have a hand in the selection of the new workers. New workers should know that they are to be on a probationary trial period for the first two or three months and that they must measure up to the high standards of the group to remain on the payroll.

Schedules

Scheduling of each cleaning task is extremely important. Schedule rest periods and lunch-times and "get-ready" times as well as providing for "wash up" time at the end of the work day. And be sure to provide each worker

CONDUCTING regular staff meetings about such things as the best way to use the equipment on hand, is another step that increases efficiency.

CHECK (✓) TASKS COMPLETED

AREA #	Swept	Dusted	High Dusted	Wet Mopped	Machine Scrubbed	Waxed	Buffed	Windows	Walls	Other Jobs Done	REMARKS

HOURS WORKED_____

CREW OR EMPLOYEE NUMBER_____

DATE_____ _____

CREW CHIEF OR EMPLOYEE SIGNATURE

with his individual schedule. Good scheduling accounts for the full time of the worker, and saves minutes previously lost when workers stand around waiting for instructions for the next task to be done. From your listing of all work to be done, and from the schedules for each worker you can then prepare daily reporting forms and an over-all inspection form.

Through proper check-ups and follow through you can quickly detect any inadequacies in your program, rearrange workloads, determine where training is needed, and so be able to keep informed as to the progress of your planned program. Where such a program, as outlined, has been put into operation for a period of time, reports usually indicate worker approval. Cleaners like the constancy and smoothness of the planned cleaning program. Work becomes familiar, speedy, and businesslike. Cleaning methods and techniques are standardized and help to assure better, more thorough cleaning on all tasks.

MUCH MORE work can be gotten from the present maintenance staff if each cleaning task is put on a work schedule, and then carefully followed.

THE MAINTENANCE chief should take nothing for granted and instruct his staff in such things as how to properly use and care for hand brooms.

Training

Mopping, sweeping, vacuuming, dusting and all of the various cleaning tasks have long been thought to be without any skill; that anyone can do these jobs and do them well. But there are tricks and skills in every trade. And your workers must be trained to do their work in the easiest, fastest, most efficient manner. Bearing in mind that 90 to 95 per cent of your cleaning dollar goes to pay the cost of labor. It is most essential that your cleaners use the most efficient time saving methods of cleaning. The following are some examples of efficient cleaning techniques.

CLEANING TECHNIQUES

Washing Windows, Glass Doors, Mirrors, Etc.*

**(Excerpt from the National Sanitary Supply Association's copyrighted booklet "Washing Windows, Walls and Ceilings," with permission.)*

Whether washing small, medium, or large windows, the washing motion is very much the same. Use a window brush or a sponge for washing. Usually the sponge is preferred on small panes or in confined areas as excess water or cleaning solution can be controlled with greater ease.

The stroke begins at the upper left of the window pane and moves to the right. Upon reaching the right side of the window the motion starts back and forth from side to side in one continuous motion. When the side to side motion reaches the bottom of the window, it then goes up the left side and continues up and down ending at the upper right hand side of the pane.

Developing a single continuous motion enables the washer to reduce the number of strokes, and accordingly reduce fatigue. The single continuous stroke also gives greater speed and efficiency. The use of a circular motion for cleaning windows and walls has been proven more time consuming and gives poorer results, often leaving streaks and overlaps.

A chamois skin is generally used to dry small panes and the drying motion follows the same pattern as that for washing. On medium and large panes, a squeegee is used to dry the glass and then the chamois is used to keep the squeegee clean and to wipe around the frame.

Use of Squeegee

There are various ways to squeegee a window but the basic movements are either from side to side or from top to bottom. Which method is used will prob-

ably depend upon the operator and the area in which he works.

(A) Side to Side Technique—Place the squeegee in a vertical position, at the upper left of the pane and start wiping towards the right. Making a half-turn with the squeege when the other side of the pane is reached will enable one continuous stroke. The continuous single motion will give speed and efficiency and with practice will reduce fatigue. Use a chamois to wipe around the edge of the glass and frame.

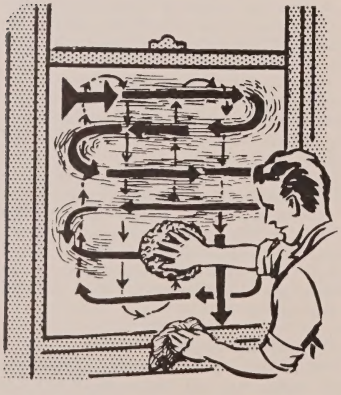
(B) Top to Bottom Method—This is merely what the name implies, i.e., using the squeegee from the top to the bottom in separate strokes. Wipe the squeezee dry with the chamois skin after each stroke. The holding of the squeegee slightly oblique will aid in controlling the flow of water, which might otherwise flow off both ends of the squeegee. Use the chamois to wipe around the edge of the glass and frame, especially giving attention to the wiping dry of the bottom of the frame since the use of this method with the squeegee forces the water down against the bottom of the frame and between glass and frame, and if not properly dried may cause rotting of the frame.

It is suggested that a good quality chamois skin be used for drying small panes. Much time can be saved and better work performed if the operator is furnished with the proper size squeegee for the work to be done—a large squeegee on large areas of glass —a smaller size on smaller areas. Squeegees are priced low enough so that each operator may be supplied with the various sizes needed to do each job efficiently.

Sweeping

Sweeping the auditorium floor has always been a difficult and rather tedious process, due to theatre seating and the ventilating ducts on the floor. A number of methods for cleaning the auditorium floor have been devised. Using an industrial vacuum cleaner as a blower, and blowing the dirt and refuse toward the front of the theatre has worked successfully for some theatres. Others, because of the many ventilating ducts, use a hand or "counter" brush around every duct and then use a "push" broom and push the dirt ahead to the next row of seats, then use the counter brush again, alternating between the counter brush and floor broom until the refuse is at the front of the theatre where it is picked up. Still others are able to push a floor broom under the seats and continue to push it down one entire row of seats from the back of the theatre to the front. A broom equal to the width of the chair is needed. A counter brush is used around the ventilating ducts and legs of the chairs. It is suggested that you try every method, and then adopt the one that does the best and quickest job for your particular floor.

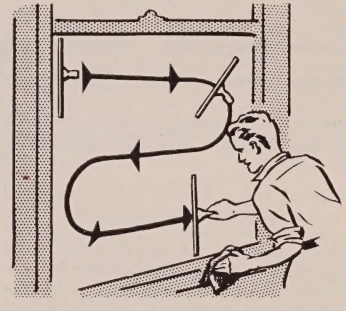
The following are some excerpts from the National Sanitary Supply Association's booklet, "WASHING WINDOWS AND SWEEPING FLOORS" to illustrate some time-saving methods of sweeping.



THE WASHING motion generally recommended for cleaning windows and glass is illustrated here.

Sweeping Stairways — Narrow Stairways

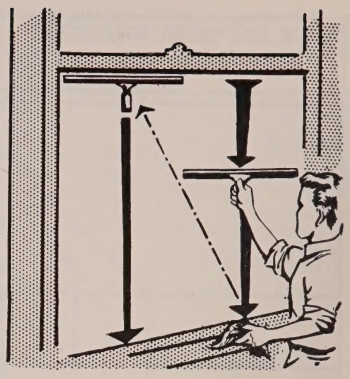
There seems to be a general agreement to the effect that whether the sweeper stands below or above his mop or floor brush, is a matter to be left to the sweeper's preference, as it does not particularly aid or hinder the efficient performance of the work. However, standing above the sweeping tool may at times prove to be a bit awkward, and of the two is likely to consume more time.



THERE ARE two basic movements when using a squeegee. Seen here, is the side-to-side method.

It is recommended that narrow stairways be swept from top down. If using a brush, and the stairways are fairly dirty, place sweeping compound (be sure sweeping compound is correct type) at the starting point at the top of the stairs and along the starting side. A treated dust mop may be used where the stairs are smooth and not too dirty.

Start at the top of the stairway. Place the brush or mop at approximately a right angle to the tread. With very little practice, one continuous stroke may be used to both sweep the stair and drop the dirt to the stair below. Merely turn the brush or mop, and push or pull away from the riser (depending on whether the sweeper is above or below the cleaning tool) to carry the dirt to the stair below. Continue to the bottom of the stairway and pick up the dirt.



SECOND fundamental way of using a squeegee is the top-to-bottom method, illustrated here.

Sweeping Stairways — Wide Stairs

The wide stairway may be swept in the same manner as the narrow. It has been found that sweeping half of the stairs toward the center of the wide stairway, while the operator is walking up to the top, will save much time and also allow the stairs to be used while being cleaned. When the sweeper reaches the top of the stairs half of the job will be finished. Then he merely starts working down using the same procedure as that suggested for the narrow stairway.

Always sweep towards a wall. If there is no wall and both sides of the stairway are open then it would be best to sweep from both outer sides to the center. This might entail an extra stroke of the mop or brush to get the dirt down to the next step but it will make sure that no dirt is swept over the edges to the floors below.

Sweeping Corridors

Corridors that receive a lot of traffic through the show hours will become quite dirty by the end of the evening. First floor corridors and those at entranceways, and along or in front of auditorium doors will require more attention than upper floor corridors and the ones infrequently used.

A dirty corridor should be swept with a wide floor brush. The corridor that is merely dusty may be cleaned with a wide dust mop.

Upon entering the corridor the sweeper should use a counter brush and sweep out all dirt from under benches, radiators, and other such objects which cannot satisfactorily be reached with the floor brush or mop. This dirt should merely be pushed out into the center of the corridor. Next, the sweeper should lay a line of sweeping compound across the end of the corridor at which he will begin his work.

The procedure is simple for most hallways. Work from the entrance, along the edge of the hall to the far end. If

WHAT IS considered the most efficient way of sweeping a stairway is illustrated on the right. The method can be learned with little practice.

too much dirt has not been accumulated, the sweeper may swing his brush around upon reaching the end of the corridor and start back up the hall with the dirt and dust he has picked up. If a large amount of dirt has been picked up on the first downward trip then he should shake out his brush and leave the dirt piled at the far end and start a fresh stroke back up the hall. A very dirty floor will require leaving the dirt in piles at each end of the corridor, whereas a lesser amount of dirt can be brought back to the starting point which makes for easier and faster pickup.

When the entire corridor has been swept, the operator should pick up the piles of dirt and sweep the floor under the piles to eliminate any spotting. Wet weather trackings will have to be mopped or scrubbed, for mere sweeping will usually do more harm than good.

The time saving principles applying to sweeping are also applicable to the task of mopping. One of the most important points with reference to mopping so often overlooked, is that mopping *must* be done with clean water and a clean mop. Mopping with dirty solution and a dirty mop is expensive from the point of time and lack of good results. The use of a two or three compartment mopping tank will speed the work by reducing time needed for water changes. Also, the use of two clean mops will add speed; one mop for the cleaning solution and the second mop for the clear rinse water.

Equipment Care

At this point, we'd like to emphasize the importance of *proper care of equipment.* All of your sanitary maintenance materials and equipment are important tools for your program. Teach your cleaners to respect their tools and to handle them carefully in order to obtain the best use and longest wear.

Mops should be cleaned after every use and hung up for drying in a ventilated area. Wring mops dry after cleaning and spread the strands open to obtain the best drying of the mop. This will add a great deal of life to the mops. It will help prevent mildewing and also prevent the development of odors in the mops. Brushes and brooms should be hung on hooks or stand them upside down, so the fibres are never resting on the floor. This will help prevent matting and prolong the life of the fibres.

Sanitation Supply Station

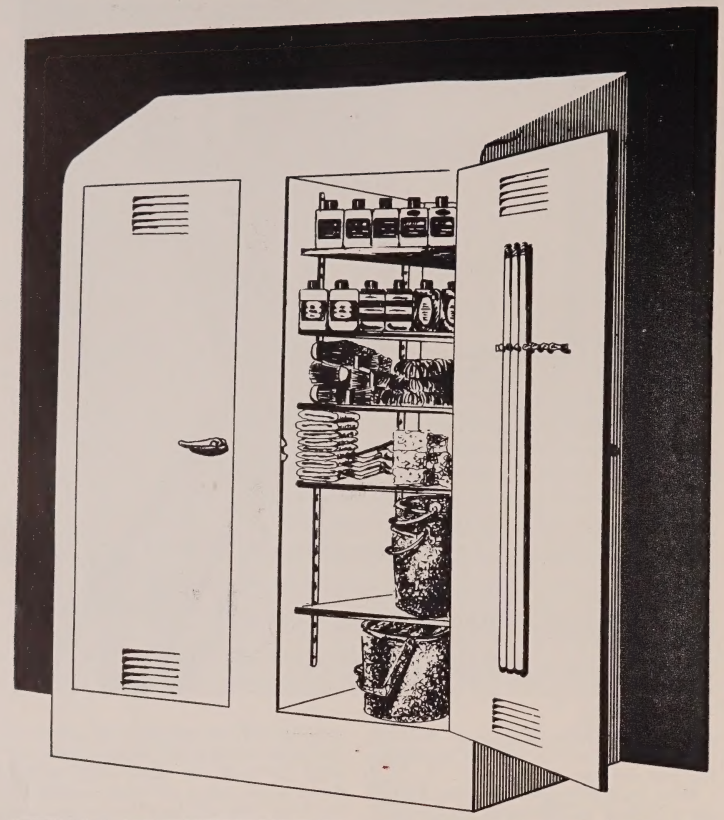
A sanitation supply station can quickly pay for itself in supplies and equipment savings, especially in the savings which will be achieved in labor time necessary for getting supplies together to do each task. "Get-ready" time is said to comprise 20 to 40 per cent of the cleaning operation. This is the time required to get buckets, mops, make solutions, etc. Proper storage will enable your operators to increase their efficiency by having their supplies packaged, uncontaminated, and ready for immediate use without waste of time. A larger supply room is needed to store supplies not for immediate use.

If possible, provide each cleaner with his own complete set of tools. Tools will last longer since each operator can be held responsible for his own equipment and supplies. Further, operators will take pride in keeping their equipment clean and in good working condition.

Dusting

In dusting, the operators should be trained to develop a motion similar to the washing motion described before. For dusting of the seats and backs of

ONE THING which should always be stressed is that the cleaning equipment must be given the proper care, as well as the theatre building.



THE SETTING UP of a sanitation supply station makes it possible to reduce "get-ready" time as well as making it simple to check the supplies.

the theatre chairs, experimenting should develop a continuous smooth dusting motion that will give good results with the least effort possible. Where cloths are used, they should be folded to slightly larger than hand size and a new, clean surface exposed as each previous surface becomes soiled. The dust cloth should be only slightly dampened.

Washrooms and Lounges

An increasing awareness of sanitation standards is the nationwide rule for the American public. As a nation, we are enjoying the highest standards of cleanliness in the world. Through our school days, and throughout our lives we are taught to practice high standards of personal hygiene. The old fashioned "outhouse" has practically disappeared, and Americans are becoming increasingly demanding of only the best, the finest, the *cleanest!* The washroom has come to be an accepted means of rating any public establishment.

Your lounges and washrooms are probably visited by every one of your patrons. And one visit to a dirty, unsanitary room is enough to destroy a patron's desire to ever return to your theatre. Medium and large-sized theatres usually have a matron and a porter on duty in the lounge and toilet rooms throughout the showing hours. But even in these theatres, we found very poor conditions existing. Here again, it is purely a lack of proper supervision. Washrooms and lounges are not difficult to maintain as some theatre managers and porters would claim. It has been noted by many that *the more "homelike" we can make our toilet rooms, the more careful will be the user.* You will find that your customers *will appreciate* a really clean toilet and lounge. Make your toilet rooms bright and light so the user can see that your toilets and lounges are cared for with his use in mind. Experiments constantly prove that the clean toilet and restroom receives the users' best attention and courtesy. Plan your method for cleaning toilets and lounges just as you plan all other cleaning tasks. Provide your workers with the proper tools and cleaners. Washroom maintenance will then become as pleasant a duty as any other cleaning job.

TOILET CARE

Seat and Cover

A. The toilet seat and cover may become cracked, chipped and pitted. Rough treatment is responsible but lack of proper maintenace procedures is the reason for the rough treatment. A clean toilet receives better care from patrons. A dirty, uncared for toilet invites continuous costly misuse. Cracks and pits in toilet seats provide excellent breeding grounds for the growth of bacteria. Such seats should be replaced with new ones.

All toilet seats should be washed at least once a day with hot water and a neutral cleaner. A disinfectant should be included in the cleaning solution. Rinse thoroughly. Wipe dry and leave both seat and cover up to facilitate complete drying.

The Toilet Rim

B. The rim of the toilet must be cleaned frequently and guarded against rough treatment. Empty all buckets and pails into your "slop" sink. Striking of buckets and pails against the toilet rim while emptying will cause damage. Also, screws of worn bumpers will scratch and discolor the rim at their points of contact, providing additional breeding places for bacteria. Replace worn seat bumpers as soon as discovered.

If the top rim of a toilet is dirty and uncared for, the underpart of the rim will certainly be in very bad condition. The uncared for under rim of the bowl is the chief starting point of stains and odors. Encrustations also plug up the flush holes and prevent complete flushing. Daily brushing under the rim is necessary to prevent accumulations of filth.

Metal Parts and Rubber Bumpers

C. A great mistake is made if metal parts of the toilet are not included in the cleaning program. Dirty hinges, flush handle, pipes, screws and bolts, etc., take away the beauty of an otherwise clean toilet. Between the hinges, around the dirty floor bolts, etc., are excellent breeding places for bacteria. Dirt and dust collect on these metal parts and discoloration and odors quickly follow. Patience is required to bring back the shine and sparkle of dirty metal parts. Once cleaned and shiny, they are easily maintained by daily wiping and a once a week polishing.

Note: Flammable polishes and cleaners are dangerous since static electricity may be generated when rubbing metal parts.

The Toilet Bowl (Inside and Outside)

D. Toilet bowls frequently become stained and waterlined. In many parts of the country mineral hardness of the water is responsible for this. But, everywhere, the condition can be prevented by thorough daily cleaning.

A carefully selected bowl cleaner will help remove stains already present. Daily cleaning with a mild cleaner and disinfectant will help prevent further staining.

All of the outside of the toilet must be cleaned daily; front, side, and rear. Hit or miss cleaning techniques always "miss" behind the bowl. This hidden rear area, an important source of odors, must be specifically included in your cleaning plan or it will offset the good of your effort.

Flush Tank

E. The flush tank is often the cause for stains which occur in the toilet bowl. Very often, the only time the flush tank of a toilet is examined is when some plumbing breakdown occurs. For a clean, sanitary toilet, however, it is necessary that the flush tank be checked regularly.

Once a week the flush tank should be cleaned by turning off the water, going into the tank, flushing, and then wiping the bottom and sides with brush and mild cleaning solution. Turn the water on, wait till the tank fills, then brush to rinse, flush once more.

Passage and Trap

F. Uncleaned passages and traps can be the start of plumbing troubles.

Encrustations and filth collecting in the passage and trap are the worst source of odors.

Harsh acting cleaners are sometimes necessary to remove encrustations but once cleaned, the trap and passage may be maintained very easily by merely wiping daily with soft brush or cloth.

Floor Area Around Toilet

G. The final step in every toilet cleaning operation should be the cleaning and drying of the floor area around the base of the toilet bowl. Damage to the floor area, the hazard of users slipping, odor development, batceria, and also attraction of insects and rodents are some of the results to be expected if the floor area is not clean and dry at all times. Porous floorings (wood, cement, etc.) should be properly sealed. If a tile flooring has been set around the base of the toilet, be sure there is a proper seal between the base and the tiles immediately surrounding the base.

Equip urinals with screens to protect your plumbing lines and guard against stoppages.

PREVENTIVE MAINTENANCE

Most of our thinking on maintenance has to do with getting rid of dirt and soil that has accumulated. Often, we overlook the vast savings to be gained by planning *against* soil accumulation. If we can stop dirt at the door, we won't have to work to get it out again. Mattings at entranceways will knock most of the dirt from our patrons' feet before they get inside the theatre. On rainy and snowy days, entrance mats and frequent mopping of the outer lobby will stop soil there. Sand urns strategically located in the outer and inner lobbies will gather most chewing gum, cigar and cigarette butts, etc., thus keeping the floor clean. A study of the natural "grouping" places in your lobbies and lounges will show you where urns should be located for most effectiveness. Waste receptacles should likewise be located for the convenience of your patrons. Place them at the spots where they are needed and will collect the most trash. In washrooms have receptacles placed right where patrons stand to dry hands. The average person will not walk all the way across the room to place a towel in a receptacle.

Preventive maintenance planning can pay off big.

Locating drink dispensing machines as far from auditorium doors as possible has helped reduce the carrying in and spilling of drinks in the auditorium. And, of course, receptacles for paper cups and candy wrappings placed next to the drink machines and the concession stands are essential.

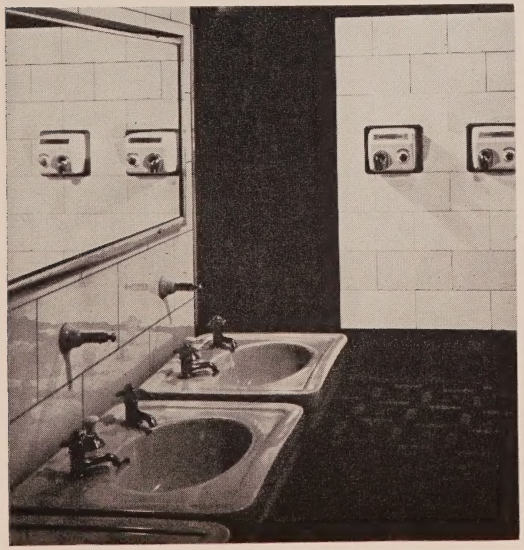
CONCLUSION

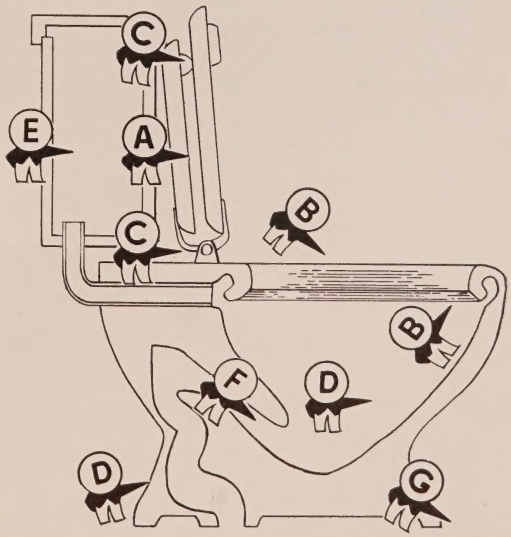
In answer to theatre management's question "How can we obtain better results from our cleaning effort?" . . . we hope this article will help point the way. Better cleaning can be accomplished through proper planning of the work to be done. Better cleaning will result from better training and supervision of your cleaning staff. And, the best part is that most of our theatres can have a more successful cleaning program using their present staffs and working on their present budgets.

We have touched briefly on planning, setting up and supervising the theatre cleaning program. Because the care and maintenance of floors is a large field by itself we have not discussed it here. The National Sanitary Supply Association has available, through its member firms across the country, the latest and newest information on the care and treatment of all types of floors and floor coverings. This Association has produced and can make available to you the 16 mm sound and color motion picture, "The Cleaning and Maintenance of Soft Floors." This film is an excellent training aid and depicts proper methods for the care of asphalt tile, linoleum, rubber tile, and other so called "soft" floors. Contact your local sanitary supplier, member firm of this Association for help with any of your maintenance problems or write to us.

Again, we say, don't sell good housekeeping short! Proper cleaning and proper sanitation can only be obtained by the day-to-day performance of those tasks that must be done. If it's soiled, clean it; if it's dusty, dust it. Sanitation is a way of life your patrons are familiar with . . . any lessening of the housekeeping chore is bound to keep people at home or send them elsewhere. The theatre is the most logical place for clean entertainment . . . in a clean place. Plan the work right, train your worker right, supervise closely and check up often and your theatre will be a clean place . . . and at no more cost than you are now probably spending.

THE IMPORTANCE of keeping a theatre washroom bright and clean cannot be underestimated. This is one of the areas in which the patron demands that the facilities be spotless and odor-free (left). The diagram (right) highlights some of the key parts of the toilet which must be given attention.





Luminescent Colors in the Theatre

A Review of the Development of Luminescent Materials and How They May be Employed Effectively in Conventional and Drive-In Theatres

By A. Strobl
President, Stroblite Company

BRIEF: ***The successful exhibitor is the one who not only books good programs . . . and keeps his theatre in good physical condition . . . but he is the one who also makes use of all the tools of showmanship so that his theatre will become a place that symbolizes entertainment to the public . . . One of these tools . . . and one which usually holds quite a bit of fascination for the public . . . is the use of phosphorescence and fluorescence to obtain interesting effects . . . This article by one of the true pioneers in the field . . . discusses the subject of luminescence in theatres . . . an explanation of black light . . . telling what it is and what it can do . . . and the equipment available to achieve various effects . . . Throughout the article the author suggests various ways and means to use these glowing effects around the theatre . . . Some of these include use as part of special stage presentations . . . emergency exit and aisle lights . . . for decorative treatment of auditoriums and lounges . . . etc.***

In 1921 Ziegfeld amazed Broadway with a sensational stage effect. Girls were dressed in regular lace costumes, when suddenly the lights went out and in the blackout the previously colorless costumes burst forth in brilliantly glowing colors. This was the beginning in this country of the use of a new medium — luminescent colors — for producing those beautiful luminous color and lighting effects you see time and again in many leading theatres. It also paved the way for a new industry, and today we find many applications of the once laboratory curiosities; phosphorescence and fluorescence, known as luminescence.

Ziegfeld obtained his effect by painting the costumes with phosphorescent paints. Phosphorescent materials have the quality of absorbing light and then emitting it again. They do not generate light but have to be charged with it, a process similar to charging a storage battery with electricity. When a phosphorescent surface is exposed to strong white light for only a fraction of a minute, it will become fully charged. The stored up light energy will then be given out in the dark, thus producing a glow.

Basic Materials

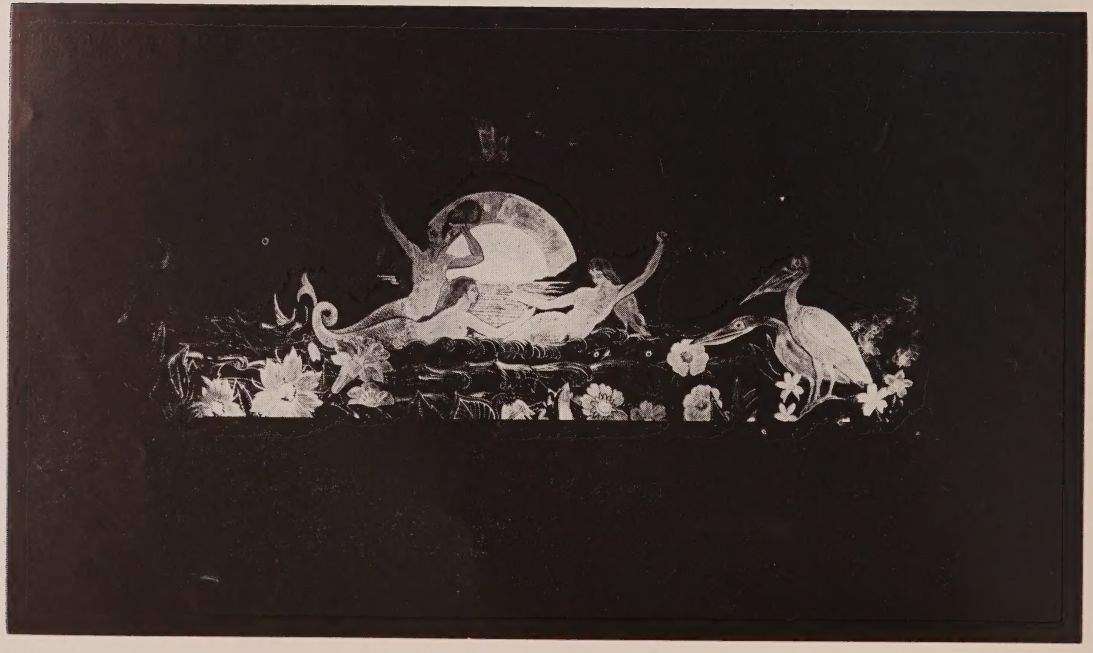
The basic materials are phosphorescent pigments, which are white or slightly colored in white light but will glow in various colors in the dark. The length of time and the brightness of the glow varies in different materials. The afterglow may be bright lasting for a few minutes, or it can be dim lasting for many hours.

Luminous products are available in ready mixed luminous paint form, or as luminous paper, fabric, plastic, etc. Phosphorescent paints do not contain any phosphorus, radium, or other dangerous materials — they are entirely harmless.

Darkness Required

In using luminous paints it should be noted that their glow is of a relatively low brightness and therefore they will be serviceable only in complete darkness. If there is too much surrounding light the dim glow of the colors will not be noticeable. This condition determines the possible use of phosphorescent effects in the theatre.

Luminous costume and scenic effects can be produced with these colors on the stage if the glow has to last only one or two minutes. Luminous make-up and luminous cloth is used for the midnight ghost shows presented in many motion picture houses.



A STRIKING example of what can be done with a fluorescent wall decoration is seen in the auditorium of the Merrick Theatre, Jamaica, L. I.

THE 15 watt ultra blue lamp, using a 15 watt 360 BL tube with an ultra blue filter glass is able to give satisfactory results in theatres.

Theatre Uses

Markings on the stage floor painted with luminous paint will be visible in blackouts, thereby serving as guides when no light can be turned on.

As a safety measure against electric power interruption, the exit signs made with phosphorescent materials will remain visible in the dark, rendering valuable service in such emergencies.

The early phosphorescent color effects as presented on the stage had great eye appeal to the audience, and there was a growing demand for a method to obtain similar glowing effects without the existing limitations. This led the Stroblite Company in the late twenties to the development of fluorescent color materials and the use of ultra-violet lighting.

In fluorescence the colors are made to glow by illuminating them with ultra-violet blacklight. The light energy is not stored up, but the colors will glow only as long as the blacklight is trained on them. When this light is shut off — they instantly cease to glow.

Greater Flexibility

Fluorescence has found much wider applications in the theatre because of its greater flexibility. Good effects are obtained even in dimly lit surroundings. The brightness of the colors can be controlled by the intensity of the blacklight illumination. As a result, fluorescent effects produced with ultra-violet blacklight are today playing an important role in stage entertainment, theatre decorations, lobby displays, safety installations, and other applications for the comfort, pleasure, and safety of the public.

Fluorescent colors are now available in any desired shade and in every medium needed. They can be had as water colors, oil paints, lacquers, inks, transparent liquids, etc., for applications by brush, air spray, silkscreen and printing. Other fluorescent products obtainable are coated papers, fabrics, plastics, chalks, crayons, etc.

Background Important

To attain the highest possible brightness, the color of the background is of great importance. If the background is white — the transparent liquids will give satisfactory results. If the surface to be painted is of dark color or black — the opaque paints, which cover the underlying color, have to be used.

The 100 watt U.V. Projector Lamp with an autotransformer using a 100 watt H-4 high intensity mercury bulb with a five inch U.V. purple filter.

All fluorescent colors have one common characteristic: they glow when illuminated with ultra-violet blacklight. They differ, however, in many other respects and are selected according to the purpose they have to serve. There are indoor paints, that are usually light-sensitive and therefore should not be used outdoors, since constant exposure to daylight—particularly sunlight—will cause them to fade considerably. For outdoor use, there are special fluorescent billboard colors, good for six months to a year. Some fluorescent colors are so much brighter than ordinary colors that they can be used effectively without blacklight. These daybrite colors are not lightfast, but will stand up outdoors for several weeks without too much fading.

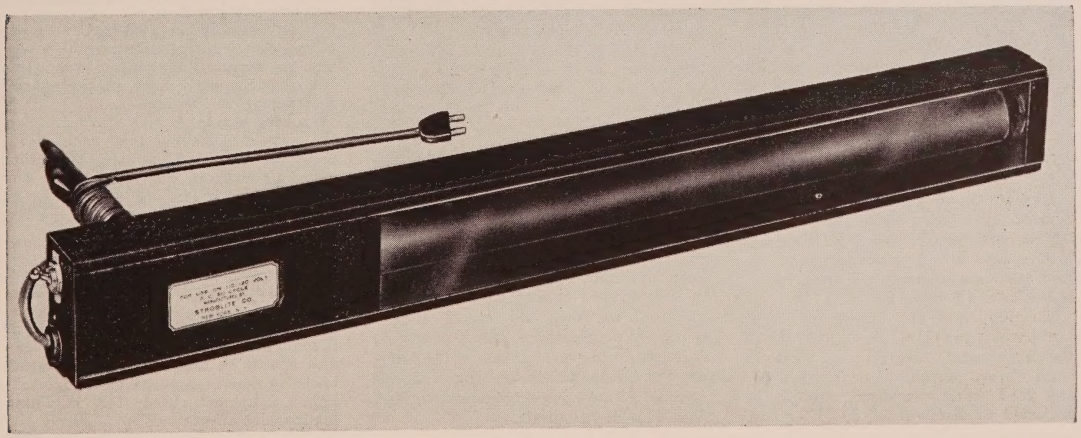
"Invisible" Colors

Mention should also be made of the "invisible" fluorescent colors, which are not seen in ordinary light, but will become visible under blacklight. These are used effectively for bringing out hidden messages and changes in designs.

Invisible fluorescent inks have found applications for secret identification and markings of tickets. They are also used as a foolproof method for controlling admissions by stamping the back of the hands of patrons with the invisible ink. The stamp mark is not noticeable in ordinary light, but will become visible under blacklight illumination. This method is replacing the old time pass-out return ticket system, particularly with children.

BLACK LIGHT

The ultra-violet light used in producing fluorescent effects is popularly referred to as "blacklight." It is that part of the spectrum which follows the visible violet, known as the near ultra-violet, which is entirely harmless and has no



effect on the eyes or skin of persons exposed to it. This near ultra-violet should not be confused with the short-wave or far ultra-violet health rays that cause tanning.

Ultra-violet light is invisible to the eye, but in practice, blacklight contains a small amount of visible purple or deep blue light. Blacklight is obtained from regular light sources which have various amounts of ultra-violet. By using special dark-colored glass filters on these light sources, the visible light is absorbed, but the ultra-violet, with small amount of light visible, is transmitted. Only fluorescent colors will glow under this light, while ordinary colors turn dark.

The brightness of a given fluorescent color will depend upon the intensity of the U.V. light. Incandescent lamps contain only small amounts of ultra-violet light and have only limited applications. Carbon arc spotlights are rich in ultra-violet radiation and will furnish very intense ultra-violet light when equipped with proper U.V. filters. They are excellent sources of blacklight for stage effects.

For permanent installations, the high intensity mercury vapor lamps and the fluorescent type U.V. tube lamps are the most practical blacklight sources. They are obtainable in several wattages and different designs to serve various purposes.

Mercury vapor lamps equipped with ultra-violet filter glasses furnish very intense blacklight. They are operated with special auto-transformers on A.C. current. Complete units are available in 100 watt and 250 watt sizes.

The 100 watt U.V. projector lamps can be obtained with flood light bulbs (beam spread 60 degrees) or spotlight bulbs (beam spread 30 degrees). They are used when blacklight has to be projected to distances of 20 to 30 feet.

The 250 watt U.V. reflector lamp consists of a mercury bulb housed in a 12-inch aluminum reflector, holding a U-V. filter glass. It gives a wide angle floodlight and is used to cover larger areas from distances up to 15 feet.

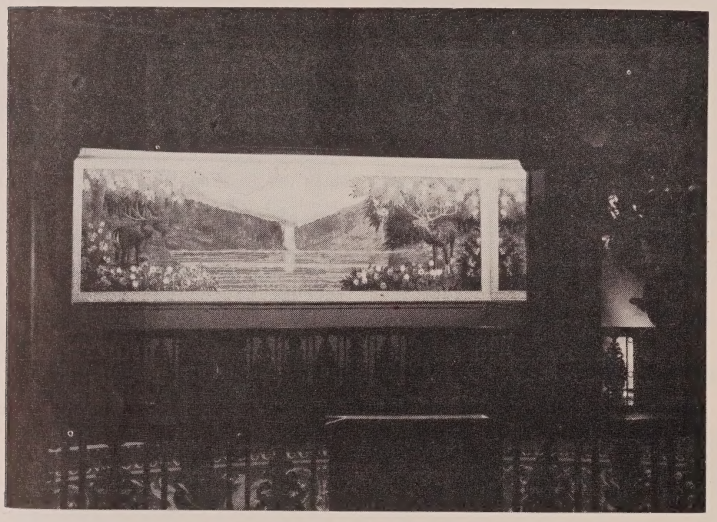
Latest Models

The latest models of blacklight lamps are the fluorescent type tubes made from four watt to 40 watt sizes. These tubes are very rich in ultra-violet and are made either with or without the dark ultra-violet filter as an integral part of the tube. When made with the dark ultra-violet filter glass, we have a blacktube that will fit standard fluorescent fixtures. When made without the dark ultra-violet filter, the tube emits some white light together with the ultra-violet, and therefore it is placed in a housing having a window of ultra-violet filter glass. If a blue ultra-violet filter glass is used, we have ultra-blue lamps which will produce 50 per cent more brightness on the fluorescent colors than that obtained with the blacktubes.

The blacklight units made with U.V. tubes are used wherever the lamps can be placed near the objects to be illuminated.

Great Appeal

On the stage, the alert producer was quick to recognize the great appeal blacklight effects have for the audience, by presenting those beautiful, spectacular, and magic-like luminous color effects you see time and again in leading houses. Soon blacklight found many applications in the physical theatre, to increase the pleasure, comfort, and safety of the public. The auditorium, being mostly in darkness, was an ideal place for luminescent blacklight decorations, and numerous picture houses are now decorated with fluorescent murals.



THE USES to which luminescent materials may be put in a theatre are varied. Seen here is the lounge of the State Theatre, Jersey City, N. J. The fluorescent mural is illuminated with 30 watt U.V. lamps.

Fluorescent murals create a very pleasing atmosphere in the auditorium. Instead of the bare walls, restful pictorial decorations in luminescent colors can turn any theatre into an interesting showplace. The fluorescent colors are applied either directly to the walls, or removable panels are painted and installed wherever practical.

The lighting of the murals with blacklight has been much simplified through the development of the tubular type blacklights. Thirty watt and 40 watt ultra-blue lamps have proven very satisfactory for this purpose. The 36-inch or 48-inch long fixtures are mounted all along the bottom of the murals and will give good U.V. illumination to about six to eight feet high. For very high murals, lamps should also be placed along the top of the mural.

The murals can also be illuminated with 100 watt U.V. Projector Lamps and 250 watt U.V. Reflector Lamps, mounted on balconies, or recessed into the ceiling.

While darkness of the auditorium made it an ideal place for luminescent murals, it also creates a problem regarding safety and convenience to get around in the dark aisles and stairways. Fluorescence can solve this problem. The aisles can be covered with fluorescent carpets, or the regular carpets are treated with fluorescent colors. For blacklight illumination, the four-watt blacktubes are installed at the bottom of the seats along the aisle. Such an installation has been made in the small theatre of the R.C.A. exhibition building in New York.

Very effective lobby displays can be made with fluorescent posters. Care should be taken that such displays be installed in recessed windows or other dimly lit places, since too much surrounding light may destroy the luminous effect desired. Patrons will be much impressed by these posters advertising coming events.

Used in Drive-ins

In drive-in theatres, luminescent effects can be used to good advantage. Directional signs, place markings, notices, etc., painted with fluorescent paints are made visible by illuminating with blacklight, without interfering with the necessary darkness.

It is generally accepted that the great contrast in brightness between the screen and its surroundings during projection has a detrimental effect on seeing, and that vision can be improved if a dimly lit border surrounds the screen. A simple way of achieving this would be to paint the border with fluorescent paint and illuminate it with blacklight. Any stray blacklight falling on the screen will in no way affect the picture quality.

CONCLUSION

Before the development of fluorescent color effects, the near Ultra-Violet radiation found no practical uses. It was the theatre that opened up this new field of illumination and now the theatre can also benefit by the steady improvements made in luminescent colors and blacklight equipment used for obtaining luminescent effects.

Chemical Soil Retardant

A New Development of Chemistry Produces a Substance Which Makes an Effective Anti-Soil Agent for Rugs, Carpets, and Upholstery

BRIEF: *There is probably not a single theatre operator who is not constantly faced with the problem of keeping his upholstered theatre chairs . . . the carpets . . . drapes . . . etc. . . . looking fresh and clean . . . A great deal of money and manpower hours are devoted to this important . . . but tiresome maintenance chore . . . This article describes a new product which is said to make this cleaning problem much simpler . . . and much more effective . . . in addition to adding about 40 per cent to the life of the materials treated . . . There is information about how the material does its job . . . how the material . . . called Ludox . . . was developed . . . the tests that were used to prove its worth . . . as well as some valuable information about the general problem of soiling . . . The closing section of the article is devoted to a discussion of a commercial product . . . presently available . . . which makes use of this new weapon against soiling.*

A chemical soil retardant—science's newest and most promising weapon in the age-old struggle against dust and dirt—is already showing evidence of easing one of the most costly and annoying maintenance problems faced by the theatre owner.

Tests Impress

Tests run in theatres, hotels, hospitals, and office buildings—confirming earlier experimental results—are proving that a product of Du Pont research, "Ludox" colloidal silica, is an effective anti-soil agent for rugs, carpets, upholstery, slip covers, and draperies when sprayed lightly on the surface of these dust and dirt collectors. It is colorless, odorless, non-flammable, and safe to use. It won't affect the color of any surface to which it is applied.

Furthermore, "Ludox" is newly available in a commercial "shampoo" formulation, called duo-dellay, that combines cleaning and soil retardant actions in one operation. According to this manufacturer, Artloom Carpet Company, it is designed for use on a wide variety of surfaces.

All this is interesting news, naturally, to the theatre operator, constantly plagued with the problem of keeping his expensive furnishings clean and fresh. Either in the single, soil retardant action, or the dual purpose formulation, the dirt comes off with sweeping, brushing, or vacuuming, but the "Ludox" stays in to give continued anti-soil protection.

Product of Research

"Ludox" resulted from research carried out in the laboratories of the Du Pont Company's Grasselli Chemicals Department. In their investigation of inorganic chemicals, the research chemists discovered that silica could be very finely divided and dispersed in water, each particle so small that 600 million of them could be placed on the head of a pin! This dispersion was called "Ludox" colloidal silica. If these particles were examined under an electron microscope, they would look like Figure 2.

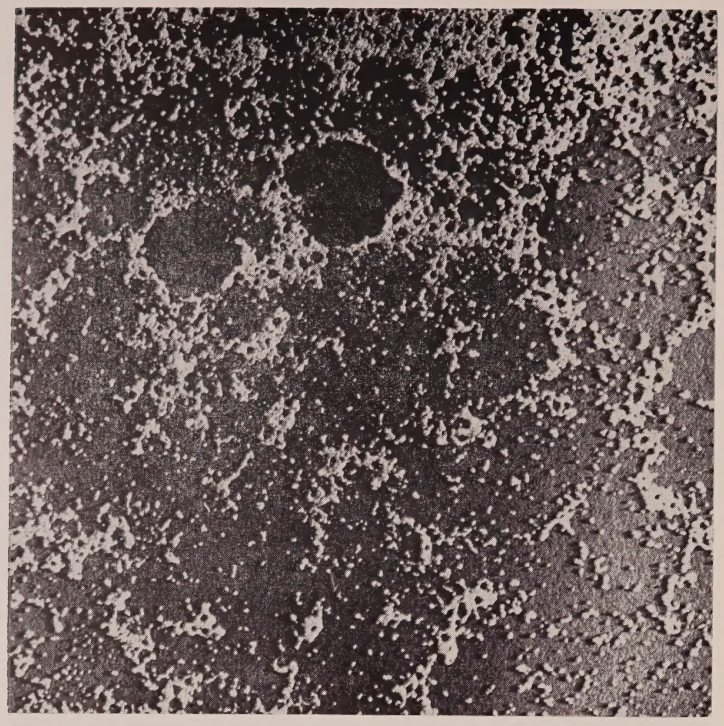
At the time of this discovery, Du Pont chemists had no specific use for this unusual material. New exploratory studies were launched because it was realized that such a unique product must have many unusual applications. From these investigations many uses have been developed. One of these is in floor waxes as an anti-slip agent. Applied to fibers as a spinning aid, it decreases slippage of the fibers and increases fiber strength. It is also used as a stabilizer in foam rubber, and to improve water and heat resistance in certain adhesive coatings.

Carpet Industry Interested

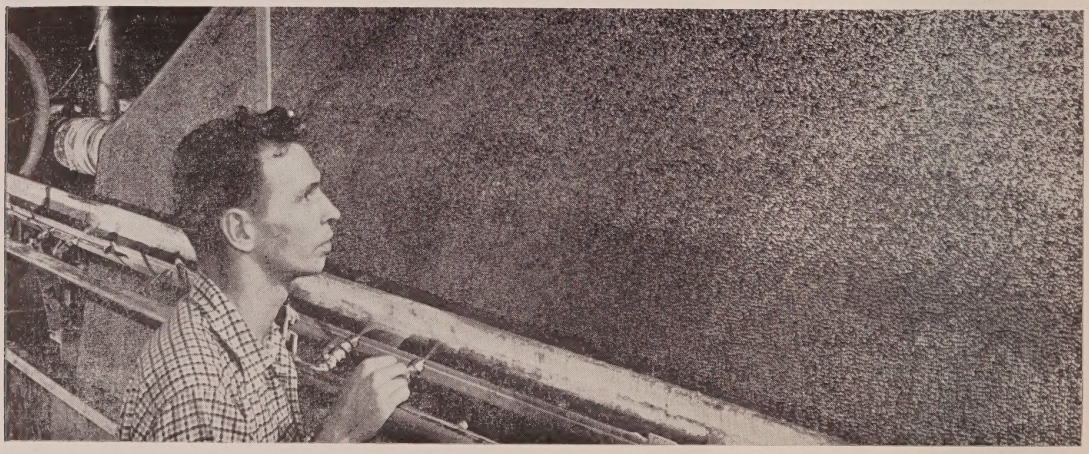
While Du Pont was looking for new uses for colloidal silica, other industries were investigating particular applications of the product in their fields. With the use of new light colors, and new fibers in the manufacture of carpets, soiling had become an increasingly difficult problem.

In evaluating various products, one of the leading carpet manufacturers discovered that "Ludox" colloidal silica, applied as a spray to the carpet pile, would greatly increase its resistance to soiling. When this use was brought to Du Pont's attention, questions were asked of its research people: First, how does "Ludox" work as a soil retardant? Second, what other applications are there for this use?

SHOWN HERE is a test strip of carpet, portions of which have been treated with Ludox. After vacuuming, treated areas emerge clean, while the untreated portions of the carpet remain dirty and dingy.



THIS PHOTOGRAPH (above) taken with the aid of an electron microscope, shows the fine particle size of Ludox colloidal silica. Seen magnified 25,000 times, these tiny, smooth particles fil' up the minute cracks and crevices, or soil receptor sites that all surfaces possess, leaving no place for the dirt particles to go, and can be easily removed by vacuuming. Carefully controlled tests (below) show that carpets treated with Ludox will stay clean about five times longer than the untreated carpets.



"Synthetic Soil" Developed

When Du Pont scientists set to work to answer these questions, and others, they soon realized they would have to learn a great deal about the elements that produce soiling. In the course of their research, Du Pont chemists actually developed a soiling agent they called "synthetic soil." They did this to make sure that laboratory tests would correspond to real life conditions. Accordingly, a material was synthesized that corresponds very closely to samples of natural dust, dirt, and soot found in six major industrial cities of the United States.

It was also necessary for the Du Pont investigators to develop rapid soiling tests which closely simulated actual conditions. This problem was solved through use of a rotary ball mill. Test carpet, "synthetic soil," and smooth stones are placed inside the mill. As the mill rotates, the stones pound the dirt into the carpet pile in the same manner that feet stamp dirt into the carpets in actual use.

Hundreds of carefully controlled tests helped researchers determine the number of ball-mill rotations that would approximate a month's wear, for example, in heavy traffic areas of a theatre lobby, or in an average household.

Tests Begin to Yield Data

After certain control conditions had been established, the Du Pont scientists began collecting their data. They now estimate conservatively that carpet treated with "Ludox" soil retardant stays clean five times longer than its untreated counterpart. Actually, independent laboratory tests have yielded results that establish the appearance life of treated carpet as high as seven, 10, and even 20 times longer than untreated carpet.

Already most of the leading carpet manufacturers are applying this treatment in the mills. One, who used to be plagued with customer complaints, has sold several million yards of carpet treated with "Ludox" without one complaint of premature soiling. "Ludox" anti-soil treatment is also available to commercial carpet cleaners for treating rugs and carpets after cleaning. Most recently, several products based on "Ludox" have been marketed for consumer application.

Wherever it is used—in the mill, at the cleaning establishment, on the floor —"Ludox" can be easily and safely applied. Conventional mill procedures employ spray application, or the transfer roll method.

The Mechanism of Soiling

As a result of continuing research, Du Pont investigators learned some interesting things about surfaces and how soil penetrates them, and why "Ludox" colloidal silica so effectively combats soiling. All surfaces, under high magnification, may be seen to have tiny pits and crevices into which soil particles

settle. These are called soil receptor sites. In Figure 4, a typical surface is shown as it might appear under an electron microscope.

It might be the surface of a fiber, or of a painted wall, or even wall paper. In Line No. 1, the coarse, jagged dirt particles can be seen hiding in the imperfections of the surface and resisting conventional cleaning methods. Line No. 2 shows a surface which has been cleaned. The first action following application of "Ludox" is apparent. In the smallest of the microscopic imperfections "Ludox" stakes out a prior claim to the soil receptor sites. In Line No. 3, it can be seen that the "Ludox" is growing together or jelling in place to fill the larger pits and crevices. Next, as the solution dries, "Ludox" forms a continuous coating over the surface to make it smooth and imprevious to dirt. And last, "Ludox" has completely protected the surface, leaving dirt no place to hide.

Research on Other Applications

Once Du Pont's scientists understood the mechanism of soil retardancy, they undertook to apply its principles to surfaces other than rugs. To date, commercial products based on "Ludox" are available only in the carpet and upholstery field, but application of this anti-soil treatment to painted walls, wall paper, window shades — even Venetian blinds and lamp shades — is showing experimental promise.

Tests Run in Theatres, Hotels

Some theatre and hotel operators are running their own tests on the effectiveness of "Ludox" as an anti-soil agent. They are using the commercial formulations available for consumer application to rugs and carpets, and upholstery fabric. Reports indicate that one manufacturer's claim of six months' soil resistance from a single application is more than substantiated.

Here is how you can apply the new soil retardant. Following manufacturers' simple directions, stated clearly on the label, spray the preparation on your *new or freshly cleaned* carpets, upholstery, or draperies. Most satisfactory results are obtained by using conventional spray attachments to vacuum equipment, or any of the standard electric sprayers with nozzle spray control.

After that, ordinary vacuuming is all that is required until such time as the effectiveness of the treatment declines.

The new double purpose product is applied to a soiled surface in the same manner as any of the conventional rug or upholstery "shampoos." Its action lifts the dirt into a suds, which may be removed immediately by wet-suction vacuuming or allowed to dry into a power and dry-vacuumed. Meanwhile, tiny particles of "Ludox" remain to give future soil resistance to the freshly cleaned surface.

It should be remembered that *commercial* cleaning methods remove about 75 per cent of the soil retardant, so that re-treatment is necessary. Some leading carpet cleaning establishments are beginning to offer the new soil retardant and combined action treatments at nominal cost to the customers.

Commercial Product Available

One of the firms which has a product on the market using Ludox as part of its makeup is the Artloom Carpet Company, Philadelphia. Going under the name of "dellay," it is described by Gordon S. Clausen, Artloom sales manager, as "a straight anti-soil treatment for carpets, upholstery, draperies, painted surfaces, venetian blinds and washable wall paper, as well as 'duo-dellay,' a combination cleaner and anti-soil treatment."

The January 1955 issue of the Southern Hotel Journal, a leading publication in the hotel field, which has many maintenance problems in common with theatres, ran a story giving the results of laboratory tests involving "dellay." The following are excerpts from that story:

"What would you pay for a liquid you could spray on your carpets every two to six months that would (1) appreciably delay the time when carpet cleaning is necessary, and (2) increase the life of the carpet by 40 per cent?

"Laboratory tests, completed by York Research . . . attribute such virtues to the product "dellay."

". . . dellay is a silica chemical, which coats any type of yarn fiber (wool, cotton, rayon, nylon). The treatment keeps soil from clinging to the fiber. When you vacuum a treated fiber, the soil comes off readily.

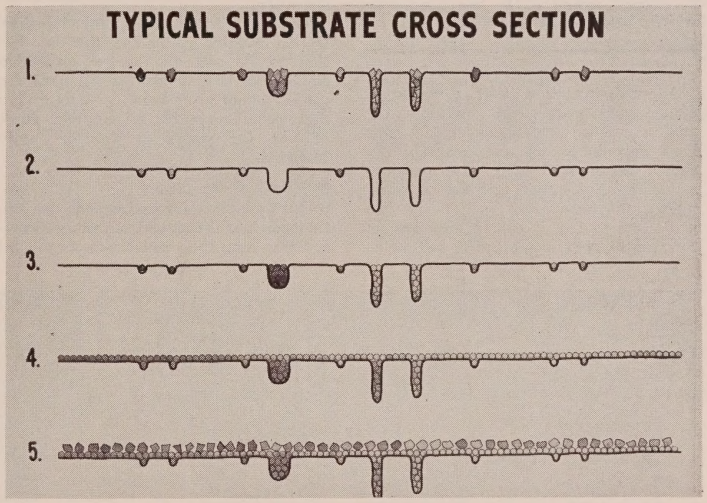
"The theory involved is the same as that of treating furniture surfaces with a silica chemical, to keep dust from adhering to them.

". . . York made a 'wear test' on a National Bureau of Standards type of wear tester. The wear index is the number of revolutions required to abrade a carpet to one-fourth of its crushed pile height. The results were:

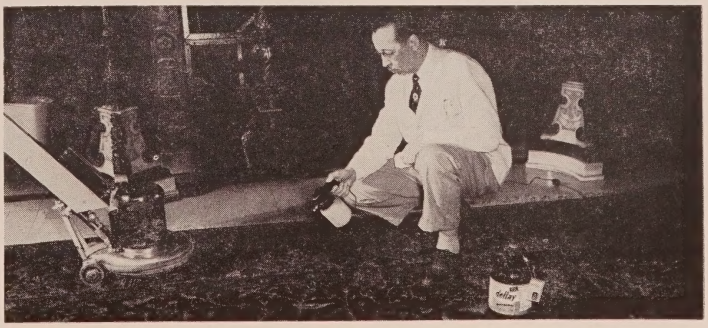
Untreated Carpet 170
Treated Carpet 238

"This would indicate an increase in the life of the treated carpet by 40 per cent."

ACKNOWLEDGMENT: The Editors wish to thank Miss Bettina Sargeant, of the Du Pont Public Relations Department, and Mr. Gordon Clausen, of Artloom Carpet Company for supplying the information and illustrations used in this article.



THIS DIAGRAM (above) shows a typical surface cross-section. In line 1 rough soil particles hide in surface imperfections. Line 2 shows surface after cleaning. Note Ludox starting to fill up the soil receptor sites. In line 3 the Ludox is growing together, and line 4 shows Ludox forming a coating over the surface as it dries. Spray application of two commercial products using Ludox, "dellay," and "duo-dellay," from the Artloom Carpet Company, is seen being demonstrated (below). They are easy to use.



Economical Spotlight

Description of a Device Designed to Convert a Projection Machine Into a Free-Moving Spotlight for Use in a Theatre

By J. Alton Pratt
Inventor

BRIEF: ***There are many small and medium sized theatres which . . . for a number of reasons . . . such as lack of booth space . . . do not have a standard spotlight as part of their equipment . . . Since many theatremen find it worthwhile to conduct contests and other live activities in the theatre which would require the use of a spotlight . . . the lack of one could be a disadvantage . . . This article describes a new invention which makes it possible to simply convert a standard projection machine into a spotlight . . . The article has been prepared by the inventor . . . who is also the head of the Stanley Warner Theatres Projection and Sound Department in the Washington, D. C. zone . . . The reader will find a thorough explanation of the various component parts of the device . . . exactly how they operate . . . and some of the many uses to which the device could be put.***

A new invention that provides a unique and economical spotlight for motion picture theatre operators has been introduced on the market and should be received with great enthusiasm. The apparatus provides a spotlight attachment for motion picture projectors so that it will be unnecessary for theatre owners to operate, and maintain spotlight equipment now in common use. The device is being marketed under the trade name of Project-O-Spot.

The Project-O-Spot invention relates generally to spotlights for theatres and more particularly to a spotlight attachment for a theatre motion picture projection apparatus.

Readily Adaptable

The new device is readily adaptable to the several types of commercial motion picture projectors now in use. It also gives another dimensional use to the existing projection equipment that is a necessary part of every theatre operation.

The flexibility of the Project-O-Spot is also revealed by the fact that in addition to its use on theatre projection equipment, it may also be attached for use on 16mm projectors . . . thus giving that portable equipment another facet of use for which it was originally intended.

Drive-in Use

Open-air drive-ins and arenas can use the attachment to great advantage especially where live shows are presented on periodic or at infrequent intervals. Being an economical attachment makes it possible for a theatre owner to include it in this basic equipment for his operation without feeling that its infrequent use adds up to an unnecessary expenditure.

A specific objective of the Project-O-Spot is to provide a free-moving spotlight apparatus adapted to fit on to the lens assembly of a projector which will receive the light from the projector lamp and easily direct it to any desired portion of the stage or forward part of the theatre, drive-in or arena.

Quickly Attached

With the Project-O-Spot attachment it is possible to modify motion picture projectors to render them quickly convertible into adjustable spotlight projectors. An important part of the device is that it may be attached and removed from the lens assembly without disturbing the pre-set focus of the lens. The projectionist, therefore, can make the changeover easily and always maintain a clear image on the theatre's screen when he is through using the spotlight attachment.

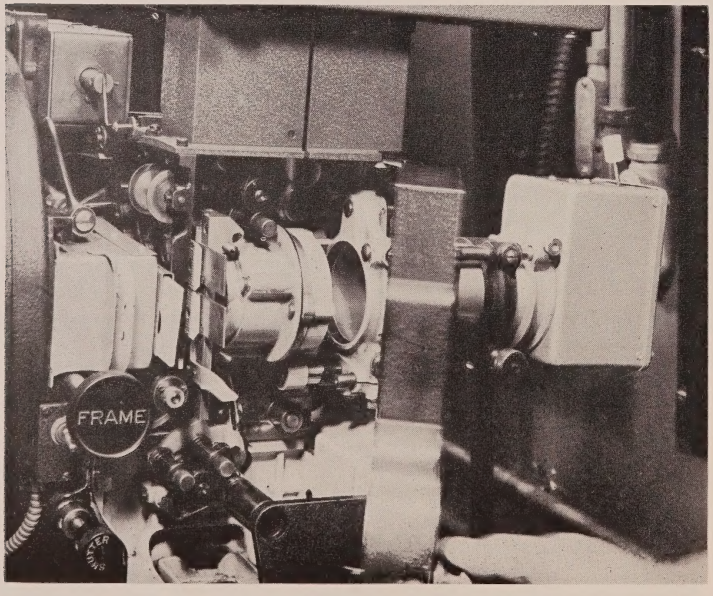
The result of years of study and experimentation, the invention makes it possible to convert a projector into a free-moving light that is controlled by a small knob projecting from the box attachment. Any action on the stage may be followed faithfully. It doesn't matter whether that action is vertical or horizontal, the spotlight is directed continuously by the mere use of two fingers; thus a great advantage in flexibility is accomplished.

Motion picture theatre booth spotlight equipment represents an expenditure of considerable proportions to the owner. In addition to the spotlight equipment itself there is the cost of the generator supplying the source of light. The Project-O-Spot eliminates the need for this equipment since it utilizes the light source projected by the projector itself.

No Space Problem

In thousands of theatres throughout the country, booths are so limited in space that conventional spotlight equipment cannot be installed. The projection machines take up most of the space in these booths. With the Project-O-Spot no additional space is needed. Conventional booth spotlights usually necessitate the utilization of a separate port hole, but this is not necessary with the new device since the spotlight is projected through the projector's own port hole.

Exhibitors during the past few years, both in urban and rural areas, have



A MOTION picture projector which has been converted into a booth spotlight is seen here. The device is attached quickly, and may be attached and removed without disturbing pre-set lenses.

been utilizing the stages to an ever-growing degree. Where stages are almost non-existent they have been using the stage apron. This is noted in the large number of theatres that present special children's shows for Thanksgiving, Christmas, Easter, and other holidays.

Other functions also make use of a theatre's auditorium, such as presentation of awards and citations by municipal or organization officials. Showmanship today calls for a theatre to become as important a facet of the community life as the theatre manager can make it.

Where medium sized or smaller theatres are involved, a large expenditure for spotlight equipment represents a prohibitive cost to the owner and too often he decides against the purchase of necessary booth spotlight equipment.

Economical

The advent of the Project-O-Spot represents a boon to such theatre operators since it permits the presentation of a professional spotlight at an extremely economical cost. In addition, when the show is over it can be easily stored away in a cabinet and not interfere with the regular work of projectionists.

Weighing less than 10 pounds, the device is attached to the motion picture projector in less than one minute. It takes the same amount of time to remove the device and get the projector ready to project film.

The Kit

Readily stored away and compact, the Project-O-Spot kit includes an aluminum box containing the reflecting and controlling features of the new invention. The box construction contains a fixed front surface mirror and a moveable front surface mirror. To the latter is attached a stem terminating in a knob that projects from the top of the box. With two fingers the knob controls and directs the spotlight to a desired spot. The degree of pressure needed to move and control the knob is controllable since an adjustable tension spring and screw are included within the box to permit the operator to tighten or loosen the screw to make movements of the spotlight adjustable at the discretion of the operator. A split ring clamp is located at the back of the box to permit rapid attachment of the unit to the motion picture projector lens assembly.

In addition to the reflector and control box, the kit includes a specially ground projector lens that is to be used in place of the theatre's own projector lens; an asbestos-lined heat hood; a slide holder; five slides with openings varying in diameter; and six gelatin color holders.

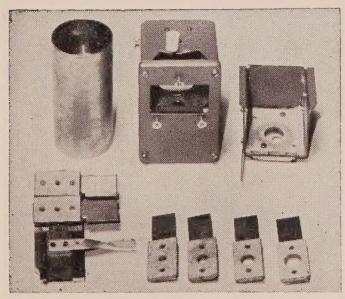
Conversion of the motion picture projector into a booth spotlight is accomplished in an extremely simple manner and there is no interruption in the professional manner in which the performance is being presented to the audience.

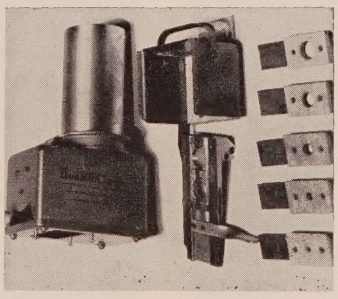
Keeping in mind the fact that the projectionist can take as much or as little time as he wishes to convert one of the projectors into a spotlight—since there are two machines in the booth and he can add the attachment to one while the other is projecting the film attraction—the changeover is accomplished in the following manner.

Changeover Procedure

Laying aside the film reel that has passed through the projector, the operator removes the machine's projector lens and puts the one that is included in the Project-O-Spot kit in its place. The removal of the projector lens will not affect the focus when it is put back on the machine since the focus attachment ring is not disturbed in any way. The kit lens can also be pre-focused so that a focused, concentrated and framed spotlight results at the terminal point. To the lens the operator attaches the Project-O-Spot reflector and control box, effecting this by the split ring clamp at the back of the box and the screw that tightens the clamp.

After this, the film pad is removed from the projector, installing in its place the heat hood and the slide holder (or gate) from the kit. The heat hood, being asbestos-lined, prevents the intense heat from passing forward except through an aperture permitting the projection of a light beam. The slide holder is machined to receive two slides at one time with different size apertures. The projectionist decides, in advance, which size spot he wishes to use and places the first two to be used in the slide holder. When one is no longer needed,





THE TWO illustrations above show the component parts of the Project-O-Spot device. Included are reflector and control box, the slide holder, and asbestos-lined heat hood; color holders are not shown.

THE DIRECTION of the spotlight is controlled by a knob projecting from the top of the unit.

the operator pushes a lever bringing into action an aperture of a different size—thus resulting in a different size spotlight. While this is in use he may remove the other slide and replace one of a different size in its place. He brings this into play by pushing the lever again. Slides may be changed as often as desired while one is following the action taking place on the stage.

Feeding and levering the slides from one slide to another takes a fraction of a second and there is no interruption in the continuity of the spotlight directed to the stage. The five slides in the kit have apertures of different dimensions ranging from ⅛-inch to ⅝-inch—resulting in a stage spot as small as one foot and as large as 15 feet, depending on the throw of the beam from the booth to the stage. Larger or smaller spots can be made easily and will be available, if necessary, though the slides in the kit permit a variety of spots that should meet all stage action demands.

Apertures of the slides are cut in brass plates that are asbestos lined. The apertures themselves are edged knife sharp and therefore permit the projection of a spotlight that is sharply defined and brilliant no matter what the size of the spotlight achieved may be. The border is precisely defined and never diffused.

Light from the projector creates intense heat and the heat hood, as noted earlier, keeps light and heat away from the projector parts and only permits it to pass through the one aperture.

Versatile

Clear or color spots may be utilized with the Project-O-Spot. Six gelatin color holders are included in the kit and contain the six colors most used for spotlighting stage activities. Should other gelatins be desired, present colors in the holders may be removed and replaced with those of one's choice. Clear spots are achieved by using the light beam as it is projected through the Projector-O-Spot. For color effects, the operator picks the color holder of his choice in the locking projections located in front of the reflecting and controlling box.

This device should also receive an enthusiastic reception from institutions and organizations that utilize 16mm projectors and have stage ceremonies.

First-Aid for Floors

An Expert Discussion of the Proper Care and Treatment Required To Get the Maximum Efficiency from a Theatre Flooring Material

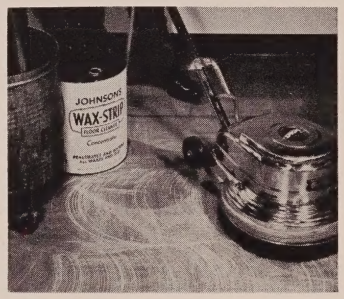
BRIEF: ***The proper care and maintenance of the floor of a motion picture theatre is of extreme importance . . . If not given the right treatment floors become shabby . . . and in turn give the theatre a shabby appearance . . . In addition . . . uncared for floors quickly have to be partially or entirely replaced . . . and this can be an expensive operation . . . both in actual expense and in the inconvenience and possible loss of time involved . . . This article offers the theatreman . . . and his maintenance staff . . . simple and basic suggestions . . . based on years of experience . . . on how to obtain the greatest amount of use from floors . . . as well as keeping them attractive and new looking . . . There is information given for various specific flooring materials such as wood . . . terrazzo . . . asphalt and rubber tile . . . cork . . . concrete . . . and others . . . General maintenance procedures are also discussed.***

By FRED C. KRAATZ
Technical Service Manager
S. C. Johnson & Son, Inc.

Floors, like people, get sick. And sometimes for a similar reason — lack of proper care.

In the medical world one of the greatest discoveries has been a recent one — Salk's polio vaccine. In the world of floor care, the greatest discovery occurred centuries ago. It was wax — still considered the best "vaccine" against "floor pox."

Actually, Nature has used wax from the beginning of time to protect her plants and animals. When man began using it on his floors he found it produced a dry film which protected the surface from abrasion. He also found that it had a natural plasticity which permitted it to be buffed to restore its gloss and to enable new wax coatings to blend with the old when traffic areas became worn.



THE THREE basic steps in any floor maintenance are (top) scrub floor thoroughly; (below, left) apply the wax or finish; and (below, right) buff the floor. This step may be repeated day by day.

Natural Waxes Used Originally

At first only natural waxes were used in floor maintenance. Then chemists learned they could improve the utility of wax by blending various types, and even adding other materials to produce ideal floor finishes for each type of flooring.

In fact, science today has developed floor finishes some of which actually contain *no* wax but have retained all of the properties of wax and offer other advantages. They are the "self-polishing, hard-coat" finishes. In addition to not requiring buffing, these finishes are harder and won't trap dirt, are more scuff resistant and more slip retardant.

However, buffing type waxes and the "self-polishing, hard-coat" products have their virtues and champions. Selection of one in preference to the other depends on maintenance habits as well as the results being sought. But for every type of flooring there is a preferred maintenance method as recommended by floor care specialists.

FLOOR MAINTENANCE

For general day-to-day maintenance floors should be swept with a hair broom, or wide, dry cotton mop, or vacuumed to remove loose dirt and grit which could be ground into the finish. If the accumulation of dirt is so heavy that sweeping won't remove it, the floor may be damp-mopped with clear water.

General Care

Applying wax, finish, or sealer to a floor is a relatively easy task. Most manufacturers advise against pouring the product directly on the floor. They suggest, instead, that it be poured into a shallow, flat-bottom pan into which a long-handled applier can be dipped. Lambs' wool has been the favorite pad for appliers. Its disadvantages are its expense and the fact that it will shrink when cleaned in hot water. Therefore, many have found that chenille pads are preferable. They do not shrink, are easily replaceable and less expensive.

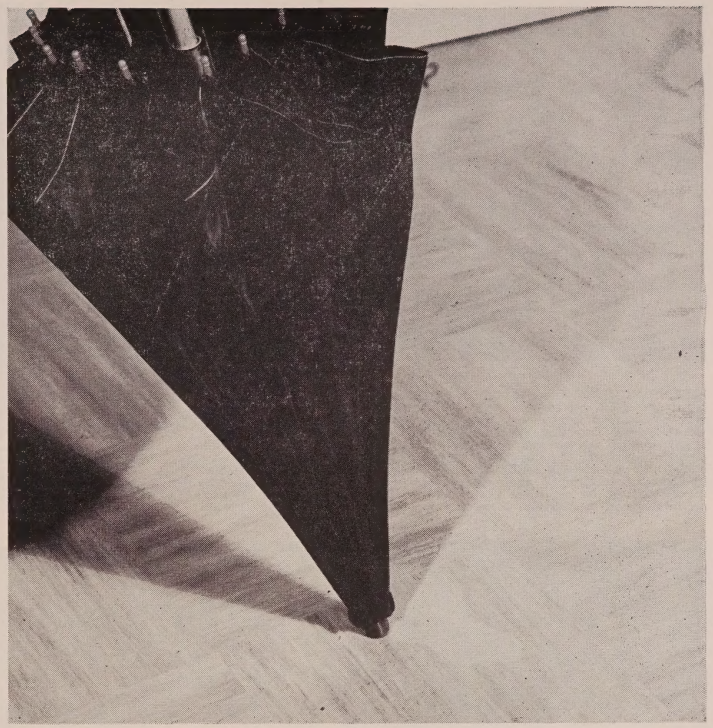
If a large area is to be waxed, many use a 14-quart clean bucket and a cotton-strand mop. The wax or finish is poured into the bucket and the heel of the mop is dipped into it before spreading. A well-formulated product will spread evenly with this system.

Minimize Build-up

Sooner or later, heavy traffic will cause the wax or finish to wear off and it will become necessary to apply another coat. Too many coats of self-polishing waxes or finishes, however, will result in a "build-up" and sometimes give a yellowish cast to the floor particularly in those areas with lighter traffic. A good way to minimize build-up is not to apply the wax or floor finish, after the first coat, too close to the walls and floorboards or other areas where there isn't much wear. A good rule of thumb is to stay six inches away from walls with each coating after the first.

When "build-up" does occur, the floor should be "stripped." Abrasive cleaners and those with high-alkaline content should be avoided, and approved cleaners should be used according to the manufacturers' instructions. In some instances, steel wool (preferably No. 2 grade) may be necessary for complete removal of the wax or finish. The floor should be rinsed thoroughly and let dry completely before applying more wax or finish.

The question often is raised as to how often it is necessary to "strip" a floor. Again, this will depend on personal preference. Certainly, a good guide is the "Rule of Six." This suggests that floors should be stripped of old wax or finishes every six months, or after six applications, whichever is earlier.



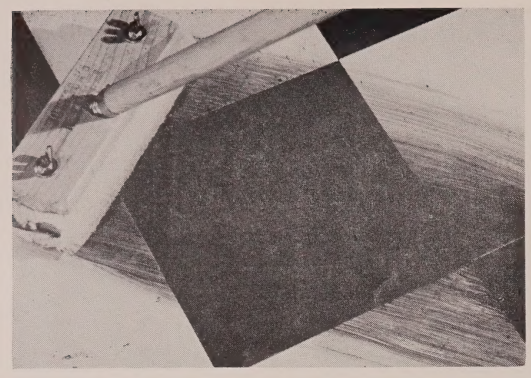
ON FLOORS of all types, lack of water resistance may result if floors have been improperly cleaned or rinsed before wax was applied. Even highly water-resistant wax products can lose some of their ability to resist water if applied over a soap film. When this occurs, strip off wax, rinse and re-wax.

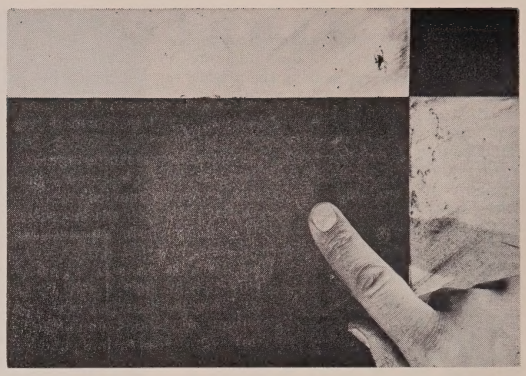
Rubber and Asphalt Tile

Asphalt and some rubber tile contain materials which can cause them to be quickly ruined by oils, greases and hydrocarbons such as gasoline, naphtha, kerosene, and paraffine oil. This prohibits the use of any solvent type floor waxes or finishes as well as floor oil, oily dust mops, and most sweeping compounds. Solvent type floor waxes can be easily identified by their odor of naphtha or

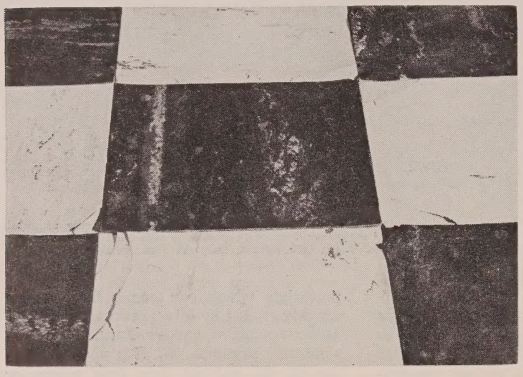
TACKINESS may be caused by the composition of the wax, insufficient rinsing, etc. To avoid this use a "name-brand" wax, and follow directions.

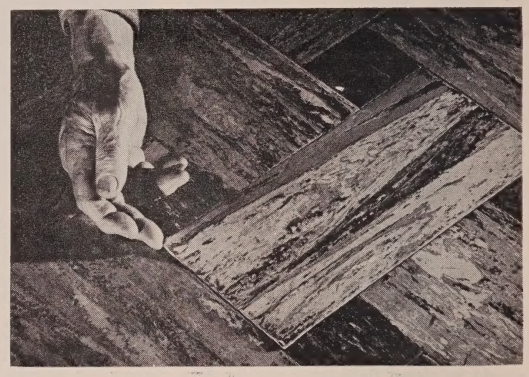
STREAKING is usually caused by an alkaline condition. Rinse floor with mixture of one pint vinegar to a pail of water, rinse and dry before rewaxing.





BLEEDING COLORS (above, left) on rubber and asphalt is usually caused by a use of oil, grease or solvents. If damage is moderate softened layer may be removed with cleaner and No. 1 steel wool. Pitting or roughness (above, right) may also be caused by the use of oil, grease or solvents. If pitting is not too bad use steel wool to cut floor back to where it is hard. Cracking or drying out (below, left) can be caused by the use of lacquers, shellacs or varnishes. A neutral floor cleaner should be used. The loosening of tiles (below, right) is caused by excessive use of water and should be recemented. Water emulsion type waxes, or floor finishes should be used on rubber and asphalt tile. These should be applied in a full, even coat. Normally, they will dry in about 20 minutes. No buffing is necessary, but the wax-based finishes may be buffed for greater luster and to hasten drying. One coat of either type is usually sufficient. Many, however, prefer a second coat for greater luster and protection. It can be applied after the first is thoroughly dry which is usually two to six hours, depending on weather. The use of proper maintenance and cleaning products will result in prolonging the life of flooring materials, even those of mediocre grade, far beyond what can normally be expected of them in consideration of the harsh treatment they receive, probably every day, from so many different sources. The operator willing to devote a little extra time to the task will profit.





turpentine. References to "buffing" or "cleaning and polishing" on the labels also indicate the presence of solvents. Most paste waxes have a solvent base.

The preferred waxes or floor finishes for rubber and asphalt tile are the water emulsion types. These should be applied in a full, even coat. Normally, they will dry in about 20 minutes. No buffing is necessary, but the wax-based finishes may be buffed for greater luster and to hasten the drying. One coat of either type usually is sufficient. Many, however, prefer a second coat for greater luster and protection. It can be applied after the first is *thoroughly* dry — usually from two to six hours, depending on weather conditions.

Wood

Down through the years, wood has been one of the most popular types of flooring. The founder of the largest wax manufacturing firm in the world (S. C. Johnson & Son, Inc.) started his business some 70 years ago as a parquet flooring salesman. His customers continually sought his advice on how best to preserve their floors. Knowing that wax had been used on wood floor for centuries in Europe, he recommended it for his customers' floors, and to accommodate them began manufacturing paste wax for their use.

And it is still true today that any wood floor is all the better if wax-maintained. However, original finishing also is important. The raw wood must first be sealed. Penetrating sealer, shellac, lacquer or varnish are the most common materials used for this purpose. Penetrating sealer is the most preferred. It is no secret that unsealed or improperly sealed wood is readily damaged by water — it can warp, become rough because the grain is raised by water, and even be permanently stained. That is why paste wax or a solvent-type liquid wax is best for any wood floor.

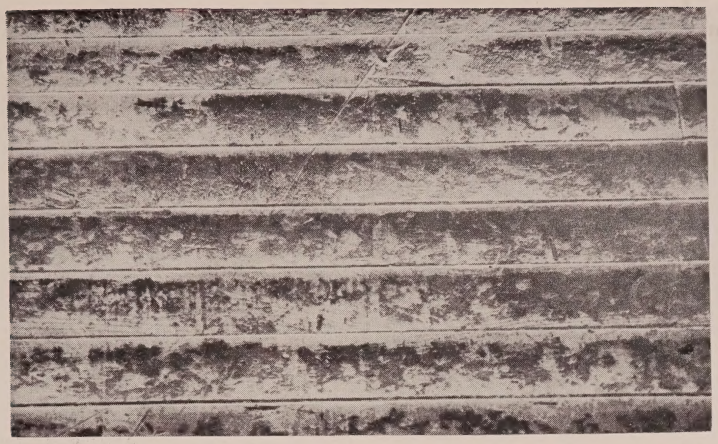
Probably the first choice for most maintenance men in caring for wood floors is a product that will both clean and wax in one operation. Such a product also conforms to recommendations of manufacturers of wood floors to avoid scrubbing with harmful soap and water. Use of these solvent-type liquid waxes is referred to as "dry-cleaning" the floors.

If a self-polishing product is going to be used on wood floors, proper sealing is all the more essential and the floors must be in good condition because of the water used as a carrier in such products.

Cork

Up until several years ago, almost all cork produced as flooring material was furnished to the builder in an unfinished state. After laying the floor, it could be sanded if necessary and sealed. Usually cork floors were finished with a penetrating sealer and then maintained with a solvent type liquid wax.

Today, however, most of the cork flooring receives a sealing or waxing treatment by the manufacturer to shorten the time before the floor can be put into service. On a well-sealed or pre-finished cork floor, either a water emulsion wax, or a solvent type wax or a paste wax can be used. Because continued use of water will cause some swelling of cork, may ruin the binder and may seep under the flooring as with linoleum, solvent type waxes are strongly recommended. This is particularly true if the cork has been pre-waxed by the manufacturer and not actually sealed.



ON IMPROPERLY sealed wood floors raised grain is caused by flooding or excessive scrubbing. To remove raised grain buff with No. 2 steel wool, seal and apply wax. Cupping is also caused by too much water. To correct cupping re-sand floor, seal with two coats of good sealer and then re-wax floor.

Linoleum

Strong alkalies, such as Tri-Sodium Phosphate (TSP), are definitely harmful and should never be used on lineoleum in mopping or scrubbing. Only enough water should be used for effective cleaning. Water seeping under linoleum will cause the backing to rot or come loose and the linoleum to buckle and break.

Either the solvent type waxes, water emulsion waxes or the "no-buff, hard-coat" finishes are suitable. The application and daily care is similar to the recommendations for rubber and asphalt tile.

Vinyl

Only in the last several years has vinyl come into its own as a popular flooring material. Unfortunately, its rapid rise to popularity was accompanied by some erroneous claims. Chief among these was that vinyl flooring "never needs waxing." Although vinyl flooring generally is denser than other resilient flooring, which helps it keep a good appearance, this property has been exploited and over-rated. In at least one instance, it has prompted a dealer to advertise vinyl flooring as "never needs scrubbing."

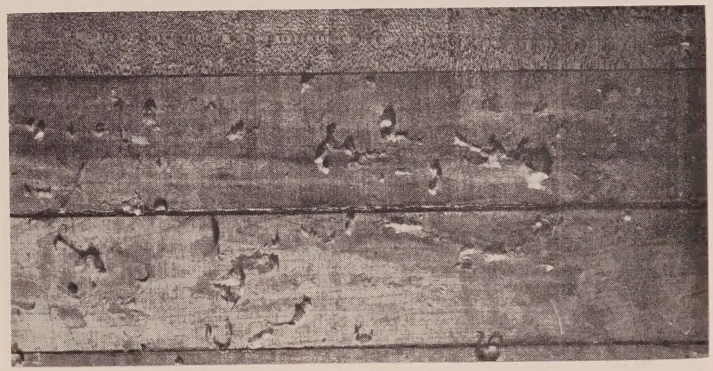
Most vinyl manufacturers today agree that waxing is a necessary part of good maintenance. Either solvent waxes, water emulsion waxes or the "no-buff, hard-coat" finishes can be used. Each will prolong the life of the vinyl as well as enhance its beauty. It may be that on some *new* vinyl floors the wax or finish may streak and fail to "wet out." If this occurs, the floor should be maintained with soap and water only for several weeks. Then regular maintenance should be resumed.

Terrazzo

There are many kinds of sealers and finishes available for use on terrazzo floors which require more maintenance than generally believed. The ideal product for terrazzo is one containing a combination of waxes, resins, and some slip-retardant ingredient carried in a solvent base.

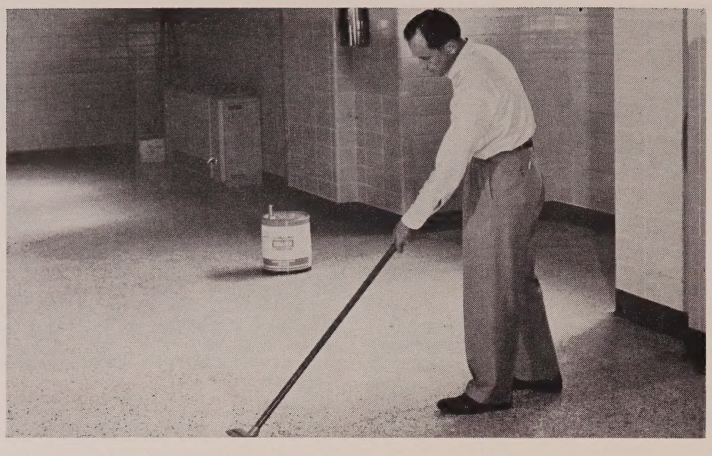
Such a sealer-finish prevents dusting and blooming and protects the floor against the penetration of water and water-borne stains. If used on a new floor it requires no curing or neutralizing of the floor and may be used without any pre-treatment as soon as the floor has dried out sufficiently. The waxes in a good sealer-finish are light in color and bring about no color change except to make the marble chips more prominent. It also is simple to use. The product is merely applied, allowed to dry (requiring only a few minutes) and is then buffed.

One of the requirements of a good sealer-finish for terrazzo is that it be renewable. When applied initially it should soak into the floor and seal it. When subsequently used as a maintenance product, it should enhance the gloss and renew the appearance of the floor itself. The surface will eventually

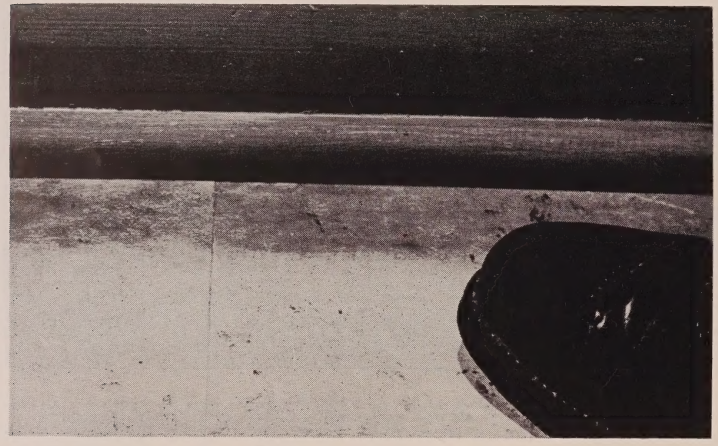


ON WOOD floors peeling of varnish results from a lack of adhesion when the varnish was applied. Scrub floor thoroughly with a neutral cleaner, rinse well with clear water. Then, roughen old surface by light sanding, or buffing with No. 2 or No. 3 steel wool before you re-apply the varnish.

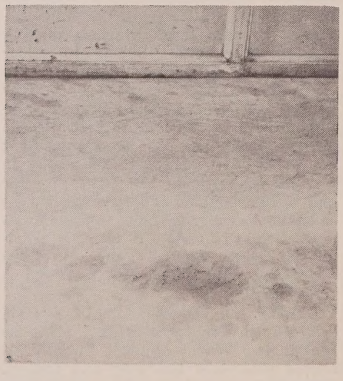
OIL SOAKING on wood results from maintenance with oil instead of wax. Scrub a small area of the floor with three ounces of tri-sodium phosphate in gallon of hot water. Neutralize with one pint vinegar in pail of water, rinse, dry and seal. If ths fails stop oiling and scrub for six months.



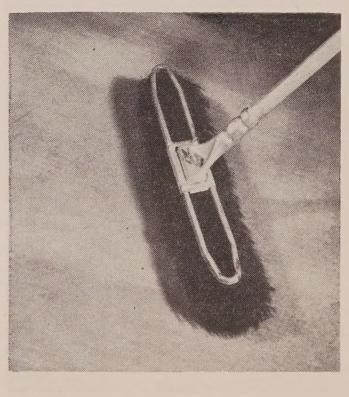
WHEN A good sealer-finish is used on a terrazzo floor and occasionally renewed a sparkling clean floor can be maintained with a minimum of effort. This is important to economy minded theatremen. An ideal product contains a combination of waxes, resins, and slip retardant in a solvent base.



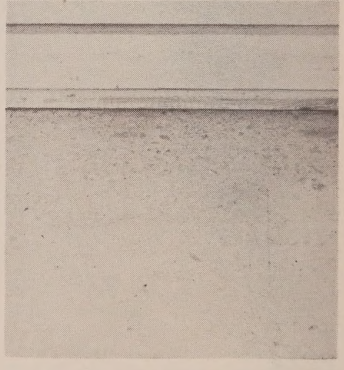
ON ALL floors wax build-up is caused by an excessive waxing around furniture or near baseboards where there is little traffic. To cure, strip the floor of all wax and re-wax. Keep a full six inches from the baseboard when re-waxing. Strip the floor surface every six months, or after six waxings.



ON CONCRETE oil spotting is due to the porosity of the material. Avoid use of oil or grease. To remove oil from concrete scrub with TSP and hot water, neutralize with vinegar, rinse well. Usually, this procedure will remove bad stains.



BLOOMING on terrazzo or concrete is caused by rising moisture which brings alkalies with it. Use a sealer-finish specially formulated for terrazzo or concrete to cure blooming problems and to increase life of the flooring material.



YELLOWING on terrazzo may be caused either by a build-up of wax coats or by a dark sealer. Strip wax from floor and re-apply in very thin coat, or remove dark sealer and reseal floor. Occasional renewal of process is recommended.

wear, but it should be practical to renew the finish to patch traffic lanes with no obvious line of demarcation. To assure maximum slip-retardant properties, it is advisable to use thin coats. For best results the floor should be buffed twice — first in one direction and then 90 degrees to the first buffing. Buffing with a No. 3 steel wool pad after polishing will further increase slip-retardance.

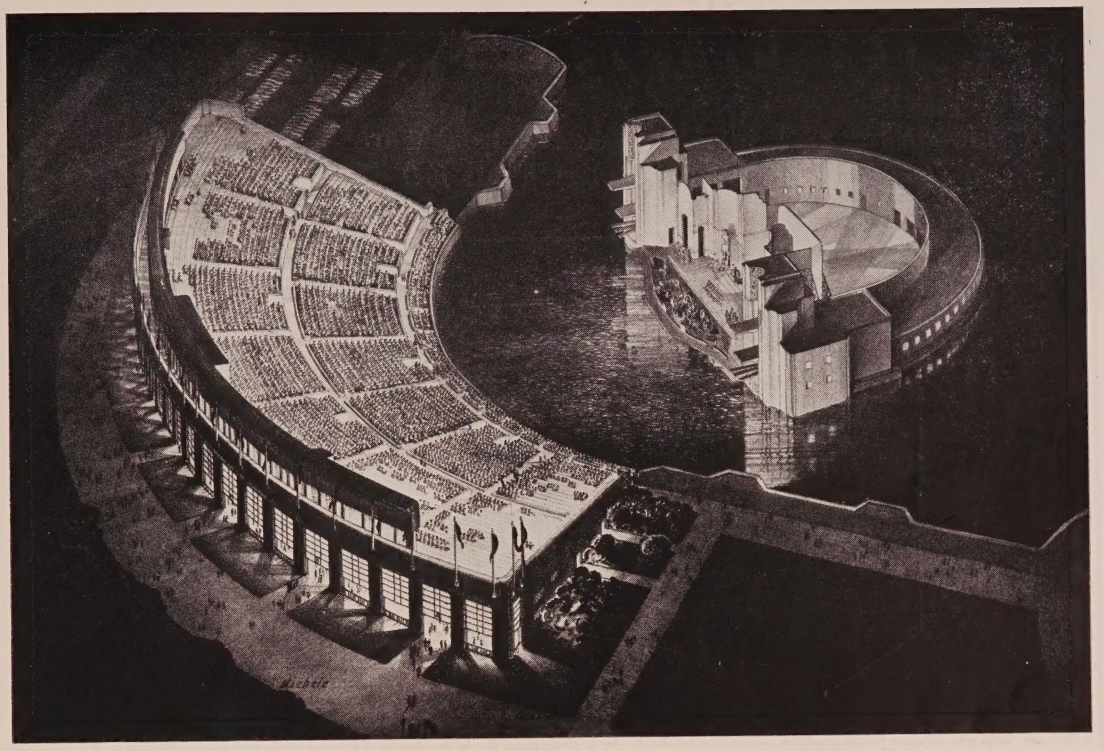
Concrete

Daily sweeping and an occasional damp-mopping was once considered the only maintenance necessary for concrete flooring. As a result concrete floors usually presented a highly unsatisfactory appearance. Dusting and blooming of the concrete caused "tracking" into better cared for areas.

Today, maintenance men have learned that they can keep concrete floors looking attractive and they can eliminate dusting and blooming with sealer-finishes especially designed for concrete. The newest of these is a water emulsion product which can be applied to concrete within a week after it is laid. Such a finish can be used without having to be removed, even if the floor is later going to be painted or tiled. It leaves a resinous film thoroughly impregnated in the floor and is impervious to alkaline cleaning solutions. An occasional renewal makes it practical to maintain concrete flooring in the time-honored sweeping and damp-mopping fashion while still obtaining an attractive appearance.

CONCLUSION

Regardless of the maintenance procedures or the types of products used, it is still impossible to predict that floors will always remain "healthy." Even individuals with good health habits occasionally require the services of a physician. And so it is with floors. When the first signs of trouble develop, it is wise to call in an expert. Such expert service is available from S. C. Johnson & Son, Inc., Racine, Wis. Write to the company's Floor Consultant Service, or call a local distributor of Johnson's maintenance products and ask for the services of one of the company's factory-trained J-Men.



One Million Watts...On Cue

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Ward Leonard engineers will be glad to work with you on any problem of dimmer control, regardless of its size or intricacy. Write to Ward Leonard Electric Co., 86 South Street, Mt. Vernon, N. Y.

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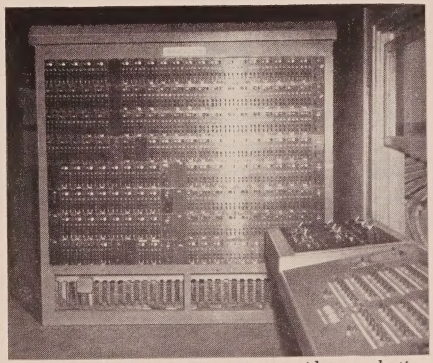

PRE-SET CONTROL PANEL in center provides preselection of lighting for three complete scenes, produced "on cue" by master controls in the master console, right.

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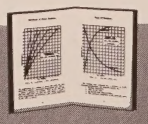
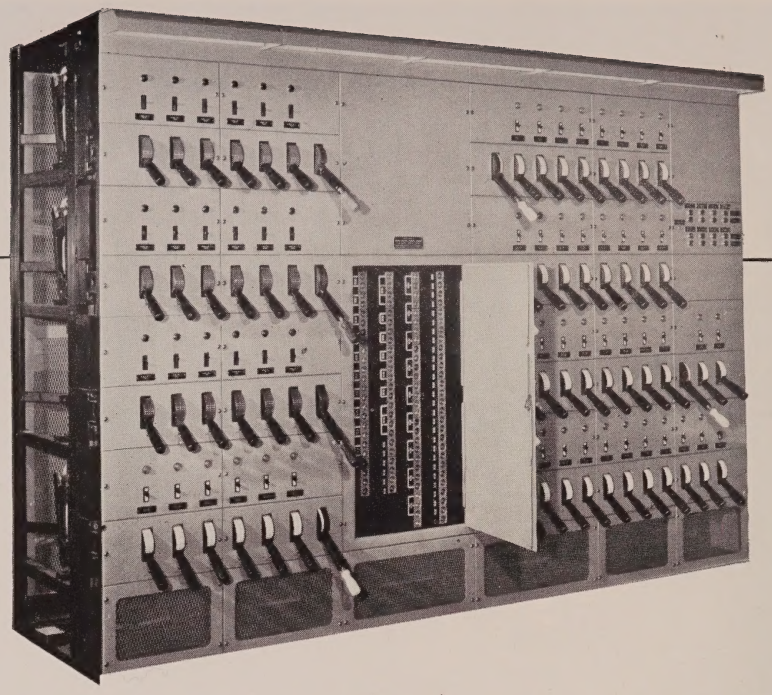

Ward Leonard's complete engineering textbook, "Handbook of Power Resistors," $3. per copy.



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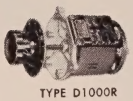
In auditoriums, single rooms and other installations where only a few circuits require dimming, non-interlocking LUXTROL controls find their widest use. They consist of one or more units operating in unison on a common shaft. Ratings from 1,000 to 30,000 watts are offered.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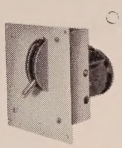
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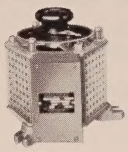
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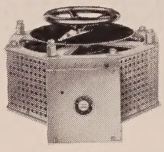
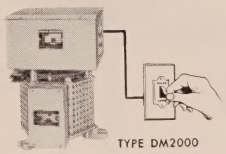

TYPE D5000

MOTOR-DRIVEN

For effortless operation of the larger models . . . or for convenient remote control, motor-driven LUXTROL controls are available in the same ratings as manually-operated assemblies.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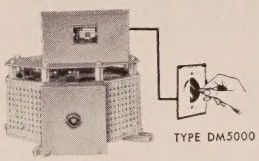
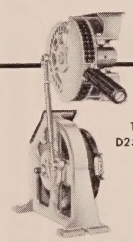
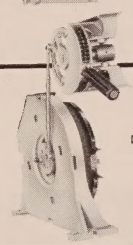

TYPE DM5000

INTERLOCKING TYPES

Supplied in 2500 and 6000 watt ratings, the interlocking LUXTROL controls may be operated independently, mastered or grand-mastered. They are available as units — each supplied with individual hand lever and indicating drum — or as factory framed assemblies in almost any required combination.


TYPE D2500H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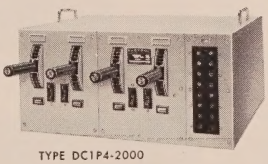
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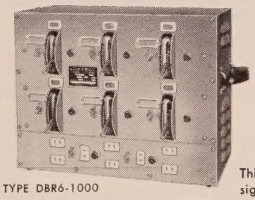
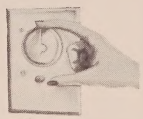

TYPE DBR6-1000


TYPE WBD360

This new concept in light control is designed for mounting into a wall. It is used in place of regular wallswitches and is easy to install. Like all LUXTROL controls, its operation is smooth and efficient. Any number of lights up to the full rated capacity of 360 watts can be controlled.

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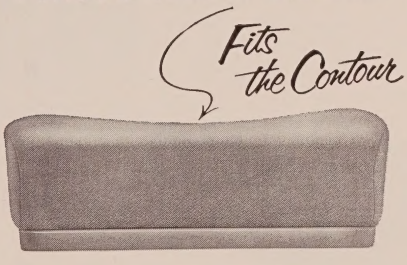

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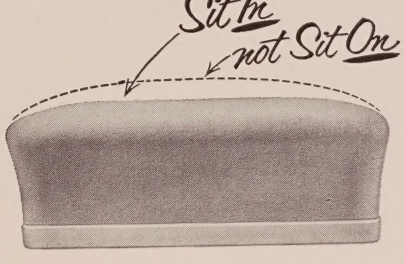

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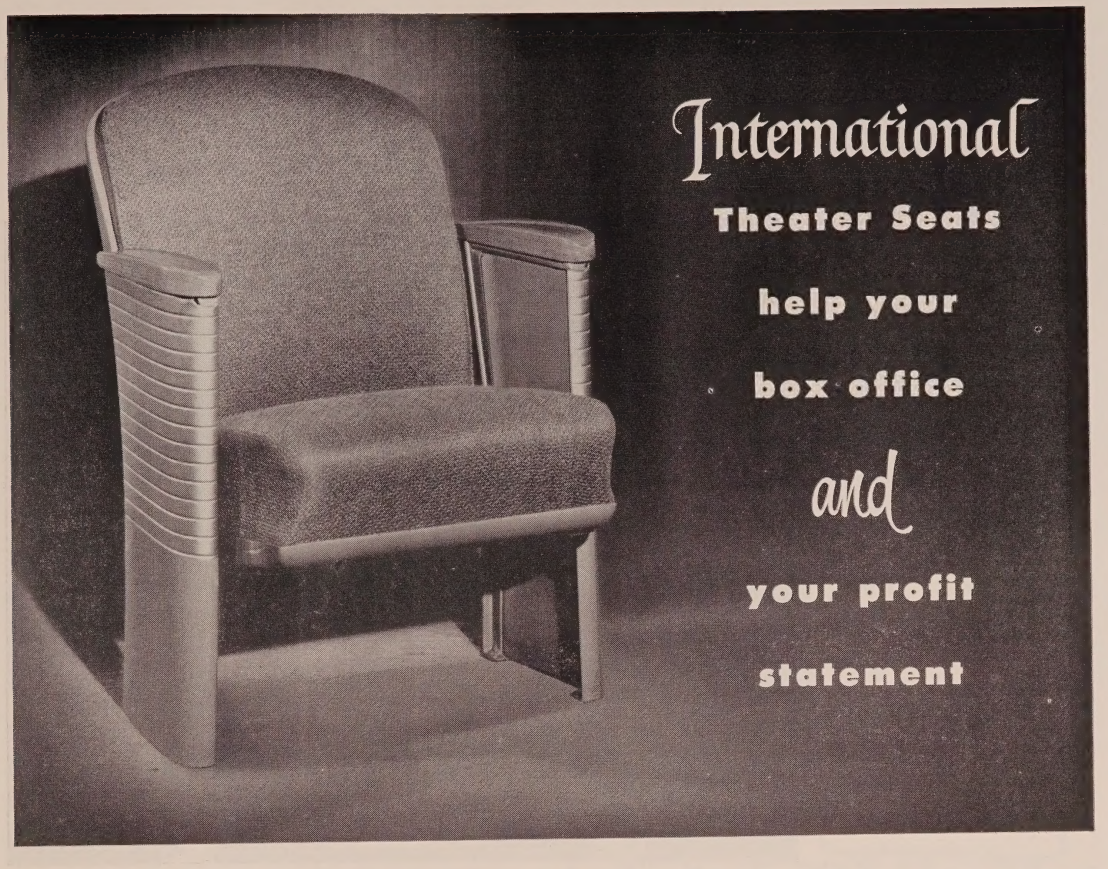

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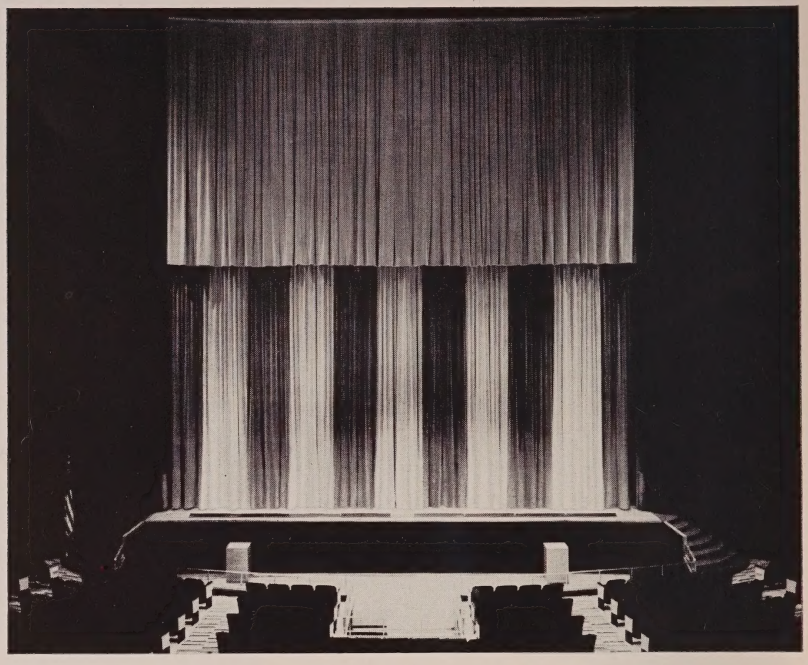

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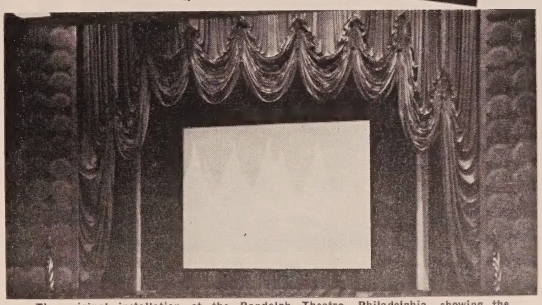

The original installation at the Randolph Theatre, Philadelphia, showing the pleasing, effective treatment with colorful contour curtains, screen masking, wall treatment of this William Goldman "showcase." A proud installation by Novelty Scenic Studios.

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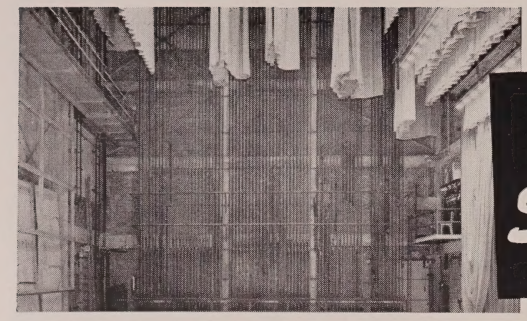

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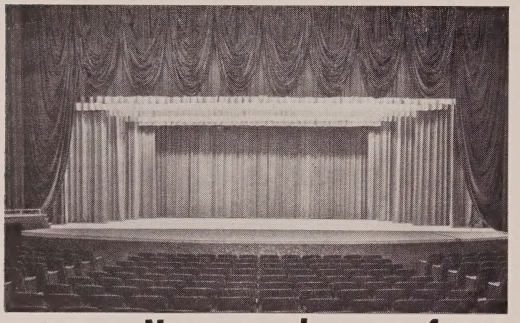
Dade County Auditorium, Miami, Florida. Stewart and Skinner, Architects. Above: Stage Rigging, T-Bar Counterweight System. Below: Stage and Proscenium.



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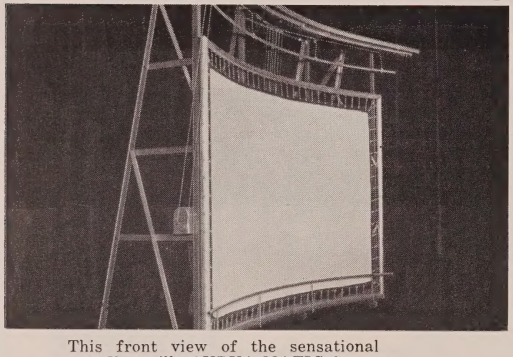

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PROJECTION *and* SOUND

1955-56

Horizontal VistaVision Projector

The Complete Story of How the Projector for the Showing of Horizontal VistaVision Was Designed, Developed and Put in Use in Only Four Weeks

BRIEF: *The full . . . and sometimes amazing story of how the author . . . and his organization . . . answered the demand for a horizontal projector mechanism is described in this interesting article . . . Compressing what is normally a one or two year project into one month . . . the development of the equipment for the showing of horizontal VistaVision . . . is a wonderful example of how the industry has geared itself to meet the demands of the new projection systems . . . In addition to this background information . . . the reader will find a thorough description of the projector mechanism . . . with full explanations of how and what each component part has been designed to accomplish . . . There is a valuable discussion of the problems of heat and light . . . and how this mechanism combats them . . . There is also important information about theatre sound . . . and what is accomplished with the horizontal projector . . . Data on how the mechanism can fit into new and already existing projection booths is furnished . . . This is a story worthy of close reader attention.*

By LARRY DAVEE
Century Projector Corporation

The design of a new projector mechanism normally involves between one and two years of engineering work—and this time they wanted it done in four weeks. They wanted a miracle. And—miraculously—they got it.

"They" in the present instance were Paramount's technical chief, Loreon L. Ryder, and his organization. What they wanted in four weeks was an utterly new, unprecedented, horizontal-type projector for VistaVision. The demand was absurd. But they said the show had to go on.

Experimental Work

Behind this most unreasonable request was some experimental work Ryder and his group had done on the Paramount lot previously. They took an old, abandoned motion picture camera — one built by William Stein back in 1926 and shelved ever since — modernized and altered it, and put it on its side and took pictures with it that way. They had no projector for showing the pictures so they took one of our mechanisms, a Century CC model, and laid it on its side and ran the new picture that way—ran it backwards, in fact. But the quality of that queer showing indicated to Ryder and his fellows that the basic idea was sound and further development worthwhile.

Not only were the Paramount people unequipped for proper viewing of their own work but Technicolor, which made the print, had no means of inspecting it after it was made, except by sending technicians to the Paramount lot to look at it through Paramount's make-shift set-up.

Projected as Photographed

VistaVision, as every theatreman knows by this time, is made to be projected in several ways, one of them through a squeeze print in a conventional, old-style projector. But the greatest value of VistaVision, its real value, cannot be realized that way. For best results the VV print should be projected as it was photographed, horizontally. And not through the haywire device of an ordinary projector placed on its side but through a proper mechanism made for this type of work. Besides, even if the projector-on-a-side could give suitable results, which it can't, there simply is not enough lateral room in most theatres to install mechanisms with their magazines reaching left and right, instead of up and down. Moreover, in this case the magazines must be oversize since the film speed is 180 feet per minutes instead of 90 feet per minute, and 4000-feet magazines instead of the 2000-feet size are needed for a 20-minute show.

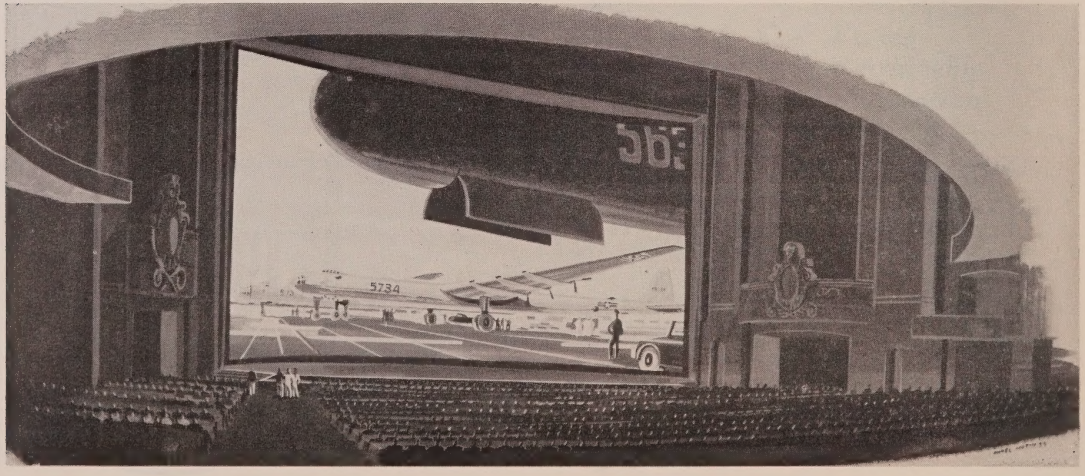
Now all this was in 1954 and Paramount had "White Christmas" all beautifully photographed via Stein's once-forgotten 1926 camera, and they wanted to project it for a paying public, on non-existent horizontal projectors, during Christmas week of 1954! We — Century — would kindly produce those projectors, complete and ready for use, in four weeks!

How do you produce something that has never existed, solve problems, iron out "bugs" all in four weeks?

The truth is, Century did it, and I'm still gaping, wondering how. We did it, though, and the show went on. We completed six mechanisms. Two went into Radio City Music Hall in New York; two into the Warner Theatre at Beverly Hills, and two to the Paramount lot.

Basic Necessities

You can say that those six mechanisms were crude, and you can say it again. They did not even have doors—they



AN ARTIST'S visualization of the screen put into the New York Paramount designed to present films using horizontal VistaVision positive prints.

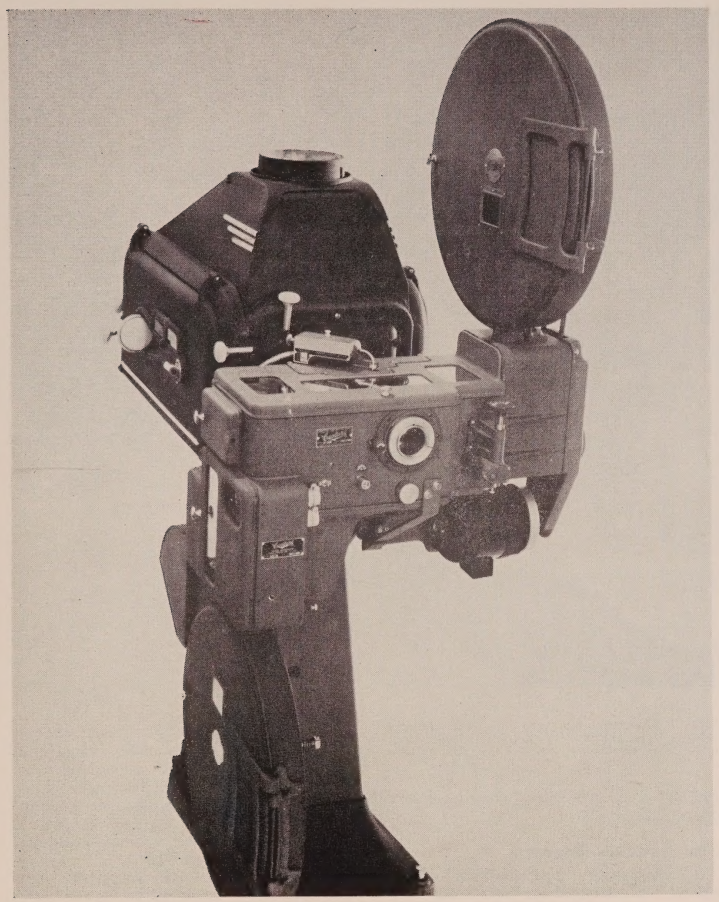


FIG. 1 shows the horizontal projector with the drive motor, the framing knob, the changeover mechanism above the projector. The projection arc lamp used is located in the rear of the unit.

were open, like European mechanisms. There was no time to bother with doors. There was no time to bother with anything except basic necessities. There wasn't even time to draw assembly prints. Our factory people assembled those six machines without assembly prints — with nothing to go by but detail prints. Of course, they were our top mechanics, with plenty of experience with projectors; no one else could possibly have been assigned to such a zany job. But even so, to assemble working equipment with no assembly instructions is perhaps one for the engineering colleges to think about.

The four-week wonders thus manufactured turned in outstandingly successful performances in two of the most important theatres in the world.

And the two mechanisms that went to the Paramount lot gave Paramount and Technicolor engineers their first chance to see their own work with the picture properly presented, not running backward.

Redesign

Then we redesigned and within the next few months we built and delivered these redesigned Century VistaVision horizontal projectors for many installations. "Strategic Air Command" was shown on the large screen, by horizontal projection, at an Omaha Air Force Base before it opened at the New York Paramount. "We're No Angels," "Seven Little Foys," "To Catch a Thief," and other VV features followed quickly one after another. Paramount and other producers finally got built-to-order cameras and returned the Stein to a well-earned retirement. Short subjects also began to appear in VistaVision and Century's production of the unprecedented horizontal projector mechanisms kept pace with the demand.

No "Bugs" Develop

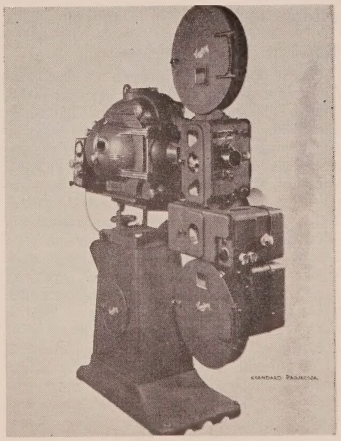
To me, one of the many wonders of the whole incredible business is the fact that these completely new mechanisms, designed in a hurry, built in a flash, have developed no "bugs." This is very nearly unbelievable; all new equipment develops faults that don't show up on the drawing boards or in the testing room, but only in practical use. Almost all new mechanical equipments of any kind — automobiles no less than projector mechanisms — tend to develop unpredicted, unforeseen troubles in each new model, and must be modified after the first models have been sold. Our horizontal projector mechanism is not only new, but original; there has never been anything like it except possibly one of Thomas A. Edison's earlier, abandoned, experiments. It was both designed and produced at unprecedented speed, yet our "bugs" have been almost zero. I can only account for this by the fact that we have been designing and building projection equipment for so many years, and our people have so much concentrated experience, that they almost instinctively apprehend and avoid a "bug" as they go along.

Standard CC and C models have been giving exhibitors satisfactory and pretty "bug-free" service these many years; but those models were not designed in four weeks, nor assembled without prints, nor installed in commercial use without engineering tests, life tests or any other kind of tests. What Paramount wanted for VistaVision was either a miracle or a near-miracle, and we gave it to them.

The advantages of VistaVision in horizontal projection are abundantly visible now on the screens of many theatres. But not all of the advantages are on the surface. The hidden values are perhaps as important as those that are visible.

Hidden Values

For example, the industry urgently needed larger screens, and VistaVision among other systems, made them possible. But more light is needed for a larger screen. Spread the same light over a larger screen and all you accomplish is to dim the picture. The problem and difficulty of getting more light is fairly well known. More light means more heat. Most of the electricity burned in the projection lamp unfortunately produces heat. Only a comparatively



SEEN above is the standard Century projector. In order to build the horizontal VistaVision projector a completely new approach was needed.

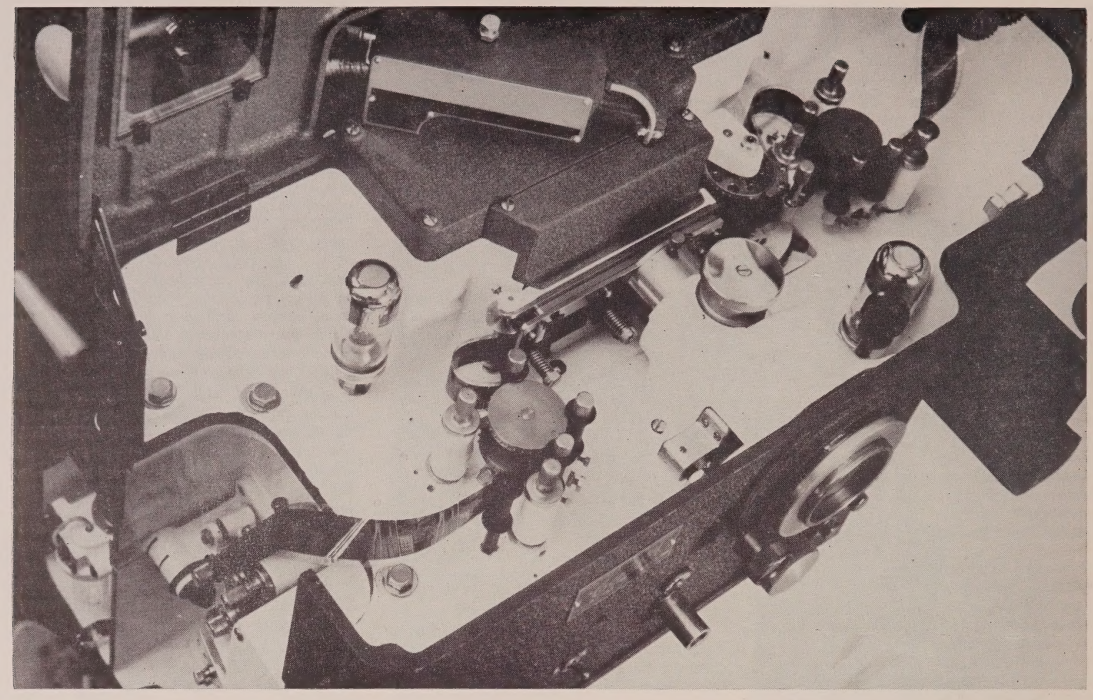


FIG. 2 illustrates the way the film changes course from vertical to horizontal and back to vertical again, as required by this system.

trifling percentage of the energy appears in the visible spectrum, where it is wanted. The rest is concentrated in the infra-red and is definitely not wanted, but must be tolerated.

The rest of the problem lies in the fact that the film refuses to tolerate the heat. The film curls up. It loses its smoothness and flexibility and becomes horny—corrugated—buckled—baked out. Such film is spoiled because the pictures on it can't be focussed. If the raised areas are brought to focus by adjusting the projection lens the valleys will be out of focus, and vice versa. And film once buckled can't be restored; it is good for nothing but to be thrown away.

Combat Heat Problem

Many answers have been worked out for this problem of getting enough light for the larger screen without buckling the film. We at Century were among the pioneers in this. The answers consisted essentially in cooling. This partial solution, there will never be a complete solution until somebody produces cold light, of cooling is applied in a number of different ways at a number of different places. Both air cooling and water cooling are used; and for air cooling both steady streams of air and pulsed streams. Water cooling is sometimes applied to the carbon jaws of the arc. Sometimes a heat filter is inserted in the light path ahead of the film, protecting the film; but the heat absorbed by the heat filter must go somewhere, and to keep the filter from cracking air cooling is applied. Projector film apertures are water-cooled. All cooling helps, but VistaVision's horizontal large-frame projection contributes further help which is not dependent on cooling.

Size Reduces Problem

To understand this further and different help contributed by VistaVision it is only necessary to remember that all projection lamps act like a burning glass in that they contain optical elements which focus the light (and therefore the heat) on the small area of one film frame. But in the case of VistaVision the burning glass effect is reduced because the VV film frame is so much larger. The conventional projection frame measures 0.495000 square inches (0.600 by 0.825) whereas the VV horizontal projection frame is 1.467584 square inches (0.997 by 1.472). Modify these figures very slightly to make the conventional frame area 0.5 square inches, and that of VV horizontal projection 1.5 square inches. It will then be seen at a glance that the VV frame area is essentially *three times* as large as that of conventional projection, and therefore will permit use of a screen three times the previous size before resorting to cooling of any kind. Now, when cooling is added (and the VV Century-built horizontal projector mechanism is fully equipped for water-cooling of the aperture) it is evident that doors have been opened to an enormous advance in screen size. In addition, Paramount recommends (and we agree) that advantage be taken of the further benefit inherent in using water-cooled projection lamp jaws also.

When a larger screen image is obtained by optical expansion of a film frame that is of conventional size or nearly so, the burning-glass effect continues as in the past to limit the amount of light that can be used to that which the film can endure without buckling. Aperture cooling and lamp jaw cooling still help with any size aperture, but the maximum increase in screen area only becomes possible when the film frame is both artificially cooled and also larger in dimensions.

Compact Mechanism

One of the most important practical facts about the horizontal projection mechanism is its compactness. This horizontal mechanism occupies no more space than a conventional vertical projector mechanism. It can be installed in any theatre regardless of limited front wall space because it takes up no more room than the equipment that is installed there now.

Of almost equal practical importance is the fact that the mechanism can be installed on any standard American projection pedestal. Separate pedestals are available and of course many theatres (especially those with enough front wall space in the projection room) prefer to *add* a complete VistaVision installation to the equipment they already have, rather than disturb their conventional installation. But other theatres simply take off their existing projectors and soundheads, leaving the lamphouse and pedestal as they were, and put on this VV projection and sound apparatus instead. The choice is a matter of available front wall space first of all, and after

that of economics and of program planning.

Film Runs Up

The path followed by the film is exactly the reverse of conventional. Film does not run down; it runs up. Film speed is twice normal—180 feet per minute instead of 90.

The full new reel is placed in the lower, not the upper, magazine. The film enters the soundhead before, not after, it traverses the projector. The soundhead can be seen at the left of the horizontal mechanism, just above the lower magazine. On emerging from the top of the soundhead the film takes a half-turn and enters the horizontal projector, crossing it from left to right (in this illustration) and passing horizontally before the projection lens. On emerging from the right side of the projector proper the film takes another half turn and runs upward into the upper or take-up magazine.

Seen in the illustration (Fig. 1) are the drive motor, the framing knob just above the drive motor, the changeover mechanism above the projector, and the projection lamp at rear.

Changes Course

Also illustrated here (Fig. 2) is the way the film changes course from vertical to horizontal and back to vertical again. At left the film is seen coming up from the soundhead and then taking a half-turn course, and running around what may, perhaps, still be described as the "pull-down" sprocket, although it pulls up and laterally and we call it the projector feed sprocket. Just above this sprocket (pictorially above it, that is) the film proceeds through its "upper loop," then rightward through the gate to the intermittent sprocket; then through its "lower" loop to what we call the intermittent loop stablizer sprocket. Then the film again takes a half-turn into a vertical course and proceeds upward to what we call the hold back sprocket and the upper (take-up) magazine.

The film compartment, as this same picture shows, provides abundant room for the projectionist's fingers in threading the film into place, making the proper loops and completing all adjustments; it is amply illuminated by two lamps, and its interior is white-enamelled both for added illumination and to show up, and encourage removal of, dirt or emulsion crumbs.

An Innovation

The film compartment includes an innovation — an industry "first" — the use of ball bearings in the pad rollers (Fig. 3). These rollers rest against the sprockets; they hold the film in engagement with the sprocket teeth and prevent it slipping off the teeth; they rotate with the film motion, but they have never before been ball-bearinged. Here is precisely one of those possible "bugs" I mentioned previously—the kind of trouble that does not necessarily show up at all in manufacturers' tests. Film formerly ran at 90 feet per minute. In VV horizontal projection it runs at 180 feet per minute. Would the pad rollers give trouble at the increased speed? There was no way to find out short of prolonged testing because they might not give trouble at first when new and round, but only afterward when they had become somewhat worn through extended use. But we have been making projectors for a long time and our people sensed that possibly here was a place where trouble could show up—later on, not immediately—and we felt that the relatively trivial cost of putting in ball bearings was an abundantly justifiable insurance. So we put in ball bearings. It is a step representative of the same general principles we have followed throughout.

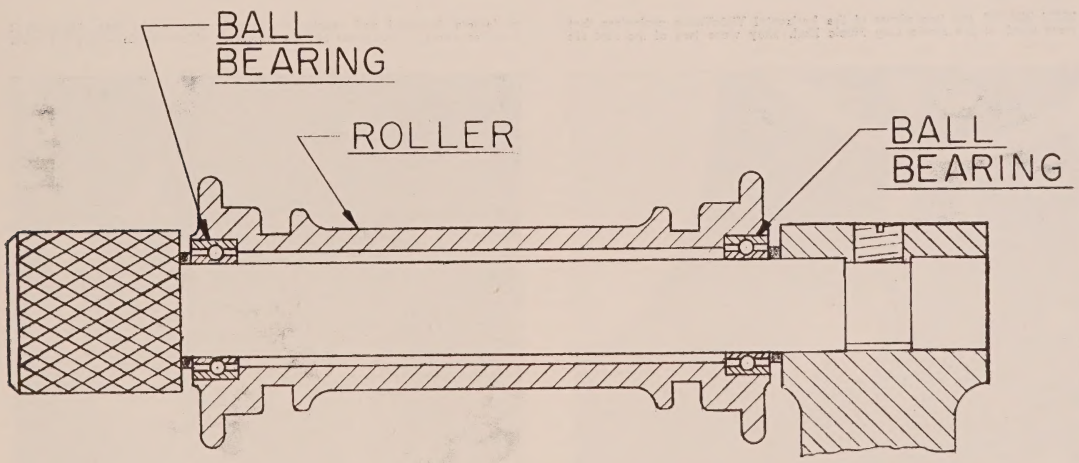
FIG. 3 demonstrates how ball bearings were used in the pad rollers. This represented the first time that ball bearings were so employed.

Power

Power is applied to the mechanism through Gilmer belts. These belts have gear-shaped corrugations along their inner edges, and they run on geared pulleys, not on ordinary ones. They cannot slip at all as ordinary belts do, and for that reason are called Gilmer timing belts. They do, however, have some of the flexibility of belts, which drive shafts and chains do not have; they tend to damp out and not to transmit vibration, because of their flexibility; they are long-lasting and decidedly economical. Three of them are used in the horizontal projector. One transmits power from the drive motor to the projector mechanism, and by its resilience practically eliminates motor vibration. A second carries power to the hold back sprocket above mentioned, and a third drives the upper or take-up magazine.

Power transmission within the mechanism and the soundhead follows the simple single-shaft system that has proved so successful through the years in conventional Century projectors. There is one straight power shaft, belt-driven, which drives the sprockets, the intermittent movement, the shutters, the governor and the soundhead.

There are two shutters, which lie between the film and the lamphouse, and by their location contribute still further to the amount of light that can be used without damage to the film, since during those intervals (48 in each second) when the screen is momentarily dark, the film is dark too and unnecessary heat does not accumulate at the aperture.



VISTA VISION DD-2
FILM PAD ROLLER ASSEMBLY

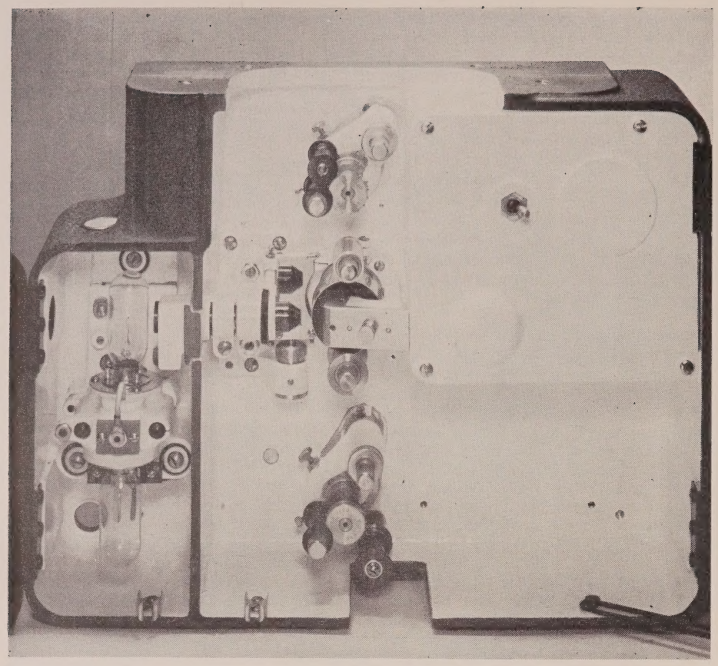


FIG. 4 illustrates the reproducer used in the horizontal projector. Film runs up through the soundhead and not in normal downward direction.

High Sound Quality

The sound that accompanies VistaVision is, as most showmen know by now, not only simplified but highly improved. Because of its simplicity it combines extremely high sound quality with low cost; and like the picture, the sound is available in several price ranges. As the best picture, in our opinion, is the horizontally projected VistaVision, the best accompanying sound is the three-dimensional (not stereo) Perspecta Sound; and our soundhead is fully designed to get the very finest out of the film that the studio put into it.

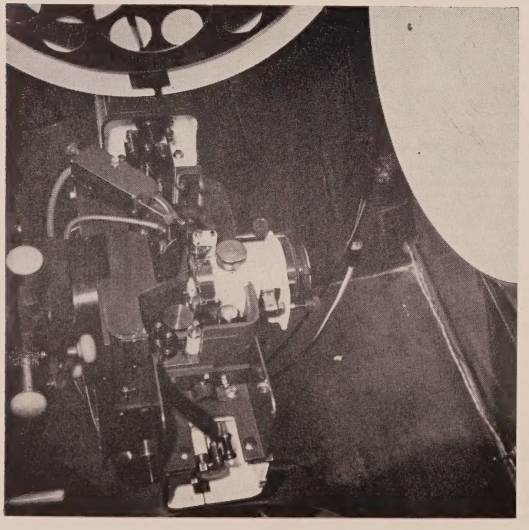
Flutter Suppressor

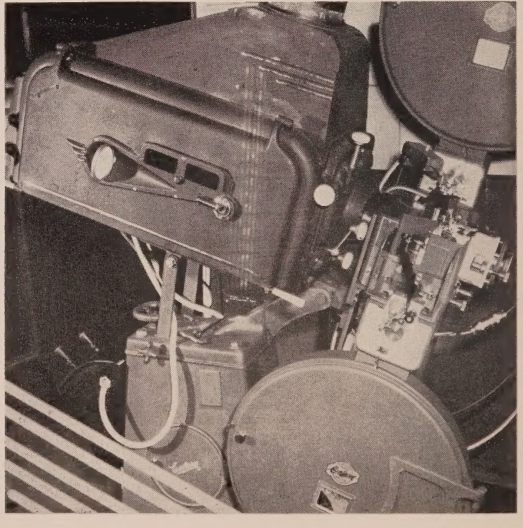
As in the case of the projector, so with the soundhead, we had problems to solve in a rush, but we did solve them. They centered essentially on our flutter suppressor, which has always been better than good—0.08 per cent flutter content where the Academy standard flutter minimum allows practically twice that; 0.15 per cent flutter content. Now, however, we faced the problem of making our flutter suppressor perform equally well not only at twice the former film speed but also against gravity where in the past applications it worked with gravity. The whole suppressor mechanism had to be recalculated, to the same formula as in the past, but to new conditions. And the new parts had to be built, and assembled without assembly drawings and put into commercial use without engineering tests. After the equipment had been put into theatres and was working for paying spectators, we made flutter tests in the theatre, and established beyond doubt that our new flutter performance is as good as in the past—0.08 per cent flutter content, just as in our model CC.

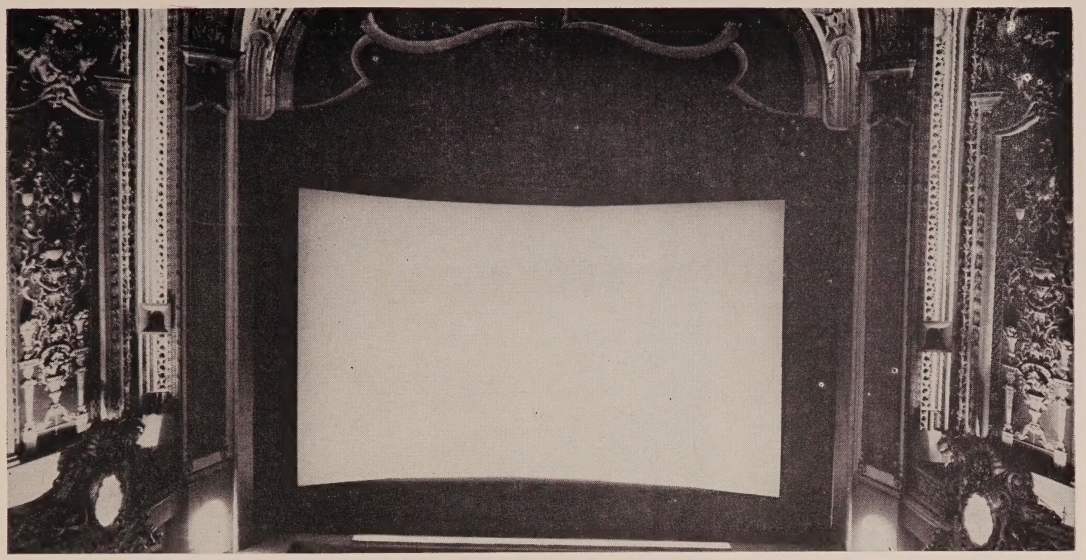
Doubles Speed

The superiority of Perspecta Sound, however, derives essentially from the fact that the film runs at double the former speed. Flip any phonograph record to make it run faster momentarily and you will hear the pitch of the sound jump a bit. The striations are passing under the needle faster; the needle is vibrating a little faster, and the pitch of the sound goes up proportionately. The frequency content of any phonograph recordings could be increased by making them and playing them at greater speed; and as you know the phonograph speed for many years was 78 rpm. With more modern record materials it became possible to get the striations smaller, crowd more of them into a given space; so it was no longer necessary to run the record as fast as before and record speeds came down to 45 and 33 rpm.

SEEN BELOW are two views of the horizontal VistaVision projectors that were used at the Radio City Music Hall. They were two of the first six projectors designed and constructed in only four weeks time. Although it was necessary to omit some of the refinements of later models, they did work.







THE HUGE screen at the New York Paramount is seen. This theatre was among the very first in the country to equip itself especially for the showing of horizontal VistaVision. The special projectors helped to paint the screen with an image that was clear, no distortion, and excellent depth of focus.

But in photographic soundtracks it has never been found practical either to reduce the striation size or to narrow down the light beam (which may be compared to the needle point in phonographic sound). It has never been found possible to reproduce more than about 9,000 cycles of sound, if that, with reasonably full volume under the old conditions. And as hi-fi record players, frequency modulation radio broadcasting, and other improved sound reproducers came into common use, the theatre, which at one time offered the best sound available, fell back by comparison, and at its best did no better than the customers could get from a hi-fi platter spinner at home.

Just as the screen had to be enlarged and brightened to compete with the television picture in the living room, so also sound needed to be improved to help it compete with the hi-fi record player and the fm radio.

Sound Frequency Reproduction Increased

The VistaVision-PerspectaSound film that runs at double speed has the effect of doubling the upper limit of sound frequency reproduction. An upper limit of 16,000 cycles is the maximum necessary; few ears can go higher than that and most ears cannot reach it; 8,000-cycle reproduction from conventional film is increased to 16,000 cycles with VistaVision film, and that problem is solved—at least, as far as concerns the soundhead. What the amplifiers and speakers do with this improved sound after it has been delivered to them is another story.

Our VistaVision-PerspectaSound reproducer head is pictured here (Fig. 4). Only the upper exciter lamp works since the lower one is a pre-focussed spare. The lens tube is seen aligned with the upper lamp filament, and the sound drum, which holds film flutter down to half as much as even the Academy permits, is aligned just right of the lens tube. Film runs through this soundhead in an upward direction as already explained, not downward.

The pre-focussed spare exciter lamp serves the cause of economy as much as anything else; modern exciter lamps do not burn out very often, but they do of course burn out. Any projectionist who is doubtful of the condition of his lamp will be inclined to replace it, not taking chances with his show for the sake of a lamp bulb; but if he has a pre-focussed bulb in the soundhead, available at the flick of his wrist, he will be less inclined to discard lamps that probably have a good bit of life still left.

The soundhead film compartment, like that of the projector mechanism, is amply and abundantly large enough for careful and accurate threading of film, and white enamelled for visibility and cleanliness.

VistaVision and PerspectaSound are, of course, furnished by the producers to the choice of the exhibitor. They can be obtained in conventional prints, with conventional frame dimensions, run in conventional projectors and reproduced through conventional sound equipment—nothing need be changed. But the show will not be particularly improved.

The picture can also be projected through expander lenses, but, although the image will be larger, its full benefits still will not be realized.

Some Advantages

When played through a horizontal projector the VistaVision image can be made very large without adding distortion; it can be brilliantly illuminated because of the triple area of its frames which accommodates more light and heat without damage to film; and picture grain is greatly reduced because there is less magnification both in the photography and in the projection, owing again to the larger frame size.

Similarly the sound, reproduced through a conventional soundhead, can be played in the conventional way. Reproduced through the Century VistaVision soundhead it can still be played through conventional equipment in the conventional way, but the upper frequency of reproduction will be 16,000 instead of 8,000, provided the amplifiers and speakers can handle 16,000.

However, the sound will not only go up to 16,000 cycles in pitch, it will also become three dimensional (not stereoscopic) if the necessary three channels and a control panel are provided. An inaudible control frequency is recorded in the track; it acts on the control panel (if installed) and automatically adjusts the volume from the three sets of speakers from moment to moment. Thus the sound (albeit the same sound, not three different sounds) appears to originate in different locations, according to the action on the screen.

And the result, new sound and new picture, is a completely new show, beyond all comparison superior in attraction to the old-fashioned movie.

I am proud, that my company had so large a part in bringing this new entertainment into existence; a new pattern of entertainment so wonderful that not only is Paramount using it, but Warners and MGM are reported to be adopting it too. It's a big thing to have had a big share in. But what I am proudest of of all is that we did it—*mirabile dictu* we did it—*in four weeks!*

The Todd-AO Process

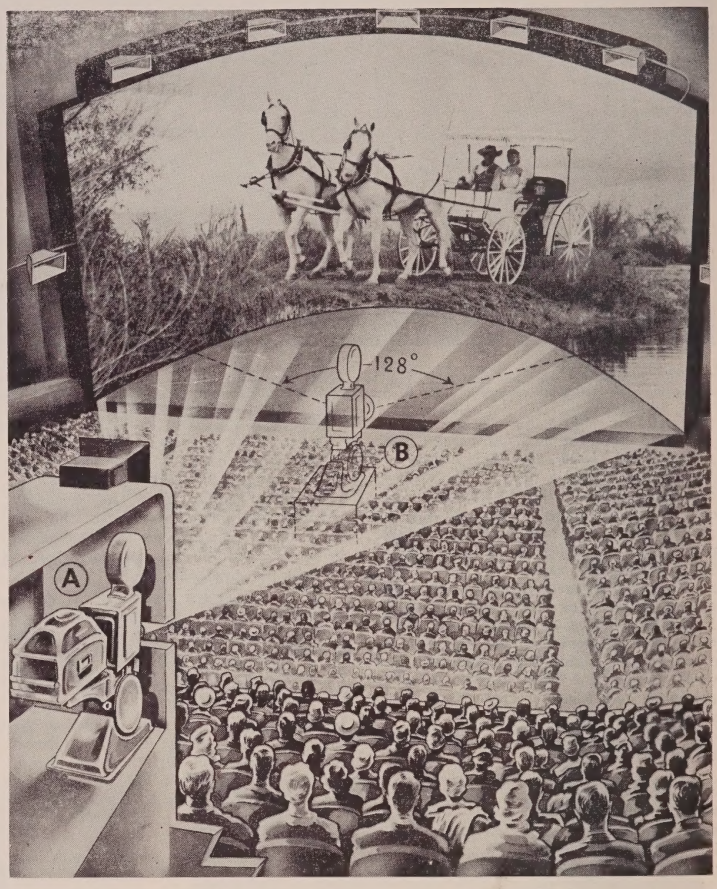
An Examination of the Type of Equipment That is Needed to Film and Project this New Super Wide Screen Process

One of the more recent of the super wide screen processes is Todd-AO. This system was given a tremendous boost when it was selected by the famed Broadway team of Rodgers and Hammerstein for the film production of their world famed musical, "Oklahoma!"

Result of Research

The Todd-AO process is the ultimate result of intensive research by a team of research and engineering scientists headed by Dr. Brian O'Brian at the American Optical Company laboratories in Rochester, N. Y. O'Brian describes the system as "a process of motion picture photography and projection that establishes the illusion of participation in the action . . . the feeling of literally being present in the scene."

One camera and one projector are used in the Todd-AO system, and does not require the three projection booths and three projectors which are required for the showing of Cinerama which the Todd-AO process is said to most closely resemble in overall appearance and effect.



AN ARTIST'S conception of the Rivoli's Todd-AO installation. Booth (A) is normally used, but booth (B) was installed in the mezzanine to demonstrate flexibility of projector as to degree of projection angle.

BRIEF: *The latest of the super wide screen systems using over-sized film to be introduced to the public is the Todd-AO process . . . This article is based on information supplied by the Todd-AO Corporation . . . and offers the reader some background on the research . . . early experiments . . . and the men responsible for the development and perfection of this system . . . In addition . . . there is detailed information about the various pieces of special equipment that had to be devised to film and project this 70mm process . . . Included in this examination are the camera . . . the camera lenses . . . the projector . . . and its component parts . . . the design of the curved screen . . . and the special material required . . . There is also data on the installation of this system in theatres.*

CAMERA

A new movie process must have a new camera. The Todd-AO cameras are precision register-pin movement cameras of surprisingly small size and light weight. They were designed to take the 65mm Todd-AO negative, but in spite of the increased width of the negative, the cameras are only slightly wider and a few pounds heavier than conventional 35mm cameras. The movement is of a double eccentric and link type and is very quiet running. Special emphasis has been put on steadiness in the Todd-AO picture, and this steadiness is achieved first of all in the camera, where special attention has been given to a rugged but precise film movement.

In addition to running at 30 frames per second, Todd-AO cameras also run at standard 24 frames per second; a high speed camera is also available; it will run up to 90 frames per second for special effect photography.

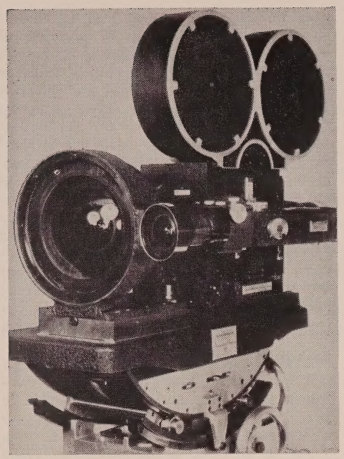
For interior shots where special quietness is necessary, the camera carries a light fiber-glass, sound-proof blimp and a special "barney" of soft padding to surround the huge "Bugeye" lens.

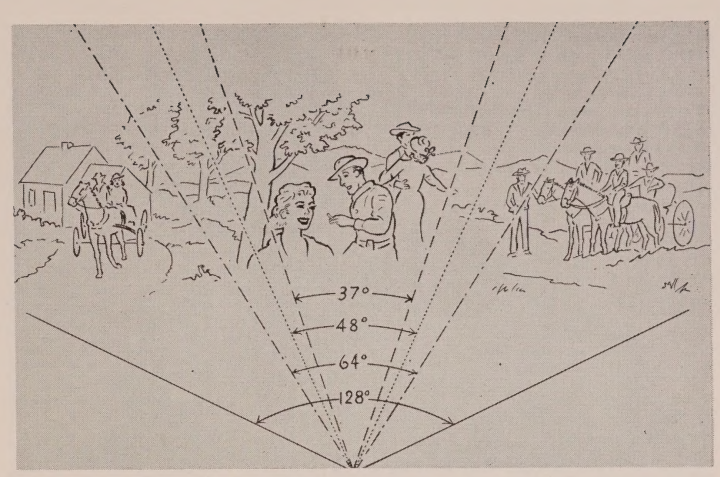
Focus Finder

Each camera is equipped with a new dual-magnification focus finder as an integral part. Sixteen-power magnification is available in the center of the field to make possible unusually precise focusing. In the low magnification position, the focus finder gives an exceptionally bright, wide view of the entire field on the ground glass with reticle lines marked for the Todd-AO frame and for other aspect ratios. This permits the photographer to compose the picture to take best advantage of the various forms of print-down with the Todd-AO negative, as well as to compose the primary Todd-AO picture.

Unique Lenses

"Oklahoma!" was photographed through four new lenses designed especially for the Todd-AO process. All of these reflect the latest developments in the art of optical design, but the most





THE TODD-AO camera (left) was specially designed to handle the 65mm negative. The diagram (right) illustrates the angle of coverage of the four lenses used. Unlike lenses in 35mm cameras, which vary in focal length, the Todd-AO lenses are classified according to the angle of coverage.

impressive is the "Bugeye" lens with a 128 degree horizontal field of view. A camera equipped with this lens can stand in one corner of a room and photograph all four walls simultaneously. For the first time, a commercial movie lens is available whose angular field matches the useful field of the human eye.

Achieving this result was not easy. Professor R. E. Hopkins of the Institute of Optics at the University of Rochester, who is a consultant to American Optical, had already acquired experience in wide-angle lenses for military training devices when he was faced with the new task demanded by the Todd-AO process. Fortunately he and his scientific colleagues at the American Optical Company had already developed considerable experience in the use of automatic high-speed computing machines in optical design. With the tools provided by the American Optical Company electronic computer, they were ready to face the design of a lens of complexity previously unknown in the industry. "Bugeye" contains 13 separate glass parts ranging in size up to nine inches in diameter — big enough for a dinner plate. In addition, it includes components unique in the industry in having surfaces which are not spherical. The problem of designing lenses with aspheric surfaces is a new and challenging one, and the problem of making these surfaces is equally difficult. War-time experience of the University of Rochester and the American Optical Company led them to believe that it would be possible to produce the desired aspherical surfaces, and after much hard work, they succeeded.

Balance Out Errors

The human eye has an unfair advantage over a movie camera in having a deeply curved film. This is impossible in a movie camera, and is one of the reasons why the wide-angle lens must be so much more complex than the lens of the human eye. The necessity of using flat film presents the very difficult problem of "distortion." One of the many advantages of the completely integrated Todd-AO system is that it becomes possible to balance out the errors of one part by the proper design of another part. Careful design of the cameras, the printer, and the screen curvature has made it possible to show a picture essentially free from distortion.

Wide Film

Todd-AO pictures are photographed on special 65mm Eastman color negative, and shown on 70mm Eastman color print. The pictures are not only wider than conventional film, but are proportionately higher, and a five hole pull-down is used.

The main advantage of the wide film is the excellent sharpness of the picture on the screen, since less magnification is necessary. Without this crisp picture, much of the realism of the Todd-AO system would be lost.

Less magnification also means less weave and jitter of the picture, and this also makes the reality more perfect. Scratches and dirt will also be less conspicuous when they begin to appear.

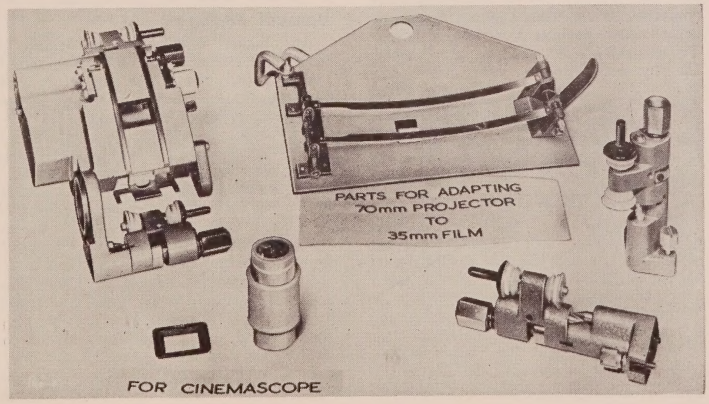
Larger Aperture

Another advantage of the wide film is the larger aperture in the projector film gate. Conventional projectors already concentrate so much light on the film during the fraction of a second that it sits in the film gate, that the life of the film is endangered. Filling a Todd-AO screen from a 35mm frame could only be done by limiting the total light drastically and destroying much of the visual sensation. This problem is solved with the wide film, and an exceptionally bright picture is possible.

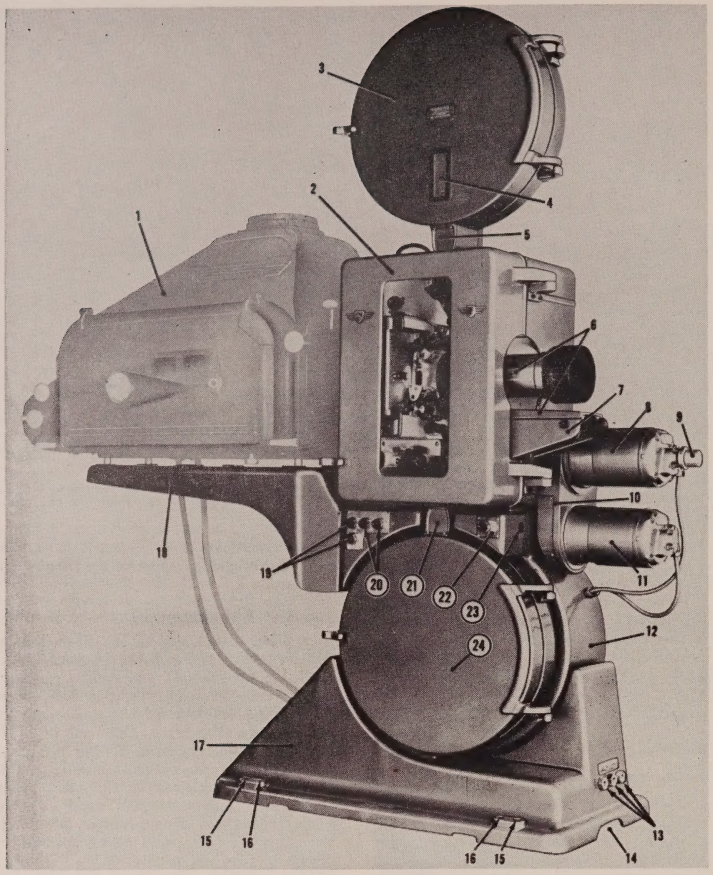
Although the negative is made on 65mm film, and the prints are on 70mm film, the pictures are the same size. The extra 5mm is to make room for the six channel magnetic sound whose quality is every bit as sharp and clear as the pictures themselves.

High Speed

The pictures are not only wider and bigger in the Todd-AO system — they come more often at a rate of 30 per



THE Todd-AO projector can easily be adopted so as to be able to project CinemaScope prints and standard 35mm prints with parts seen right.



Seen here is the all-purpose projector used in Todd-AO. 1. Arclamp; 2. Projector Head; 3. Upper Magazine; 4. Window; 5. Upper Fire Trap; 6. CineApergon Objective; 7. Lens Mount Bracket; 8. Upper Motor; 9. Inching Knob; 10. Belt Housing; 11. Lower Motor; 12. Upper Base; 13. Water Line Connections; 14. Cutout Electrical Leads; 15. Hold-Down Screws; 16. Leveling Screws; 17. Lower Base; 18. Arc Lamp Bracket; 19. Arc Lamp Push Button Switches; 20. Motor Push Button Switches; 21. Lower Fire Trap.

second. This change is necessary because the human eye is very sensitive to movements and flickers that occur at the edges of the field of view. This sensitivity is something our ancestors developed to warn themselves of dangers not seen directly, but it makes us more sensitive to the flicker of a wide movie screen. The designers of the Todd-AO Process chose 30 frames per second, thereby permitting a clear bright picture without flicker. As a result of great feeling of realism is maintained which in turn creates a great audience participation — which is the hallmark of the Todd-AO process.

PROJECTOR

The Todd-AO projector is a new design specially built for the Todd-AO system and embodying unusual flexibility to deal with the wide variety of modern film techniques. The projector will take 70mm film or 35mm film with very minor adjustments in the mechanism, and can be changed in about four minutes. The projectors are equipped to handle multi-channel magnetic sound for Todd-AO, 35mm magnetic sound for CinemaScope, or conventional optical sound. All three sets of sound equipment are provided, and the only change necessary is to thread the film through the desired sound head.

Unusual Features

An unusual feature of the design is that all the mechanism, including sound heads, is included in the projector head thus eliminating the possibility of errors due to unequal film pressure. The projector includes a tilting mechanism which rotates around a high point so that there is only a slight movement of the center of gravity. Projection angles of as far down as 28 degrees and as far up as 20 degrees can be reached, so the projector can be used in upward-throw drive-in theatres.

The projector has many valuable modern features including a centrifugal switch to drop the dowser if the film speed is too low, a water flow switch to cut off the arc if the cooling water is cut off, and stop switches on both sides of the chassis. The built in optical pre-amplifier is of a special plug-in design so that a new unit can be substituted almost instantaneously in case of breakdown. The single-bladed conical shutter cuts twice for every frame and gives a 54 per cent efficiency. Two separate motors are provided to run at 30 and 24 frames per second respectively and to provide quiet operation with a minimum gear complexity. A constant feed sprocket is provided on the magnetic film path, between the upper fire rollers and the magnetic 10 channel head; this sprocket evens out the potential jerkiness in the film as it comes out from the upper magazine — and as a result insures steady contact at all times between the film and the magnetic head.

Rugged Construction

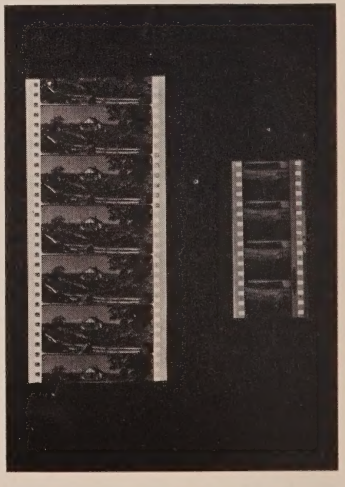
All sprockets and rollers in the projector head are made of non-magnetic aluminum or nylon with outstanding wearing abilities. The projector gate is made of tantung a special metal alloy that has excellent hardness characteristics to prevent wear and will not become magnetized. As a result, the recurring problem of degaussing is practically eliminated with the new Todd-AO projector. The 10 channel magnetic head is used both for Todd-AO sound and CinemaScope four channel sound.

An additional new feature is that the lower magazine or take-up reel is driven by a vertical shaft extending from the projector mechanism, thereby eliminating the usual chain or belt drive.

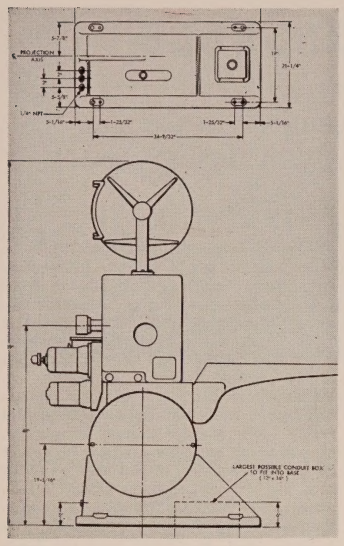
SCREEN

The most striking and significant part of the Todd-AO system is the deeply curved, concave screen. It is important to understand the visual significance of this deeply curved screen which is fundamental to the system and is responsible for many of the remarkable visual effects which would be impossible without it.

Perhaps the most important visual result from the deeply curved Todd-AO screen is the distinct sensation of per-



A CLIP of the Todd-AO 65mm film is seen (left) next to a strip of standard film for comparisons.



AN installation diagram of the Todd-AO projector showing layout and space requirements.

sonal participation experienced by the audience both physically and emotionally.

No Distortion

Another aspect of the deeply curved screen is its freedom from distorted images. Most theatre-goers are familiar with the elongated narrow figures that are seen from the side seats in the front row. Scientists at the American Optical Company conducted a series of careful experiments to see what "squeeze" could be tolerated without objection when looking at the screen from an angle. They then studied theatres to see how many seats present an objectionably squeezed picture and which seats give a good picture. The final result is that the Todd-AO system is a process for every theatre and for every seat in every theatre.

The ability of the Todd-AO deeply curved screen to avoid "squeeze" is stolen straight from Euclid's "Geometry," but Euclid never thought of applying it to a movie screen. Euclid taught that for an observer standing on the edge of a circle, equal arcs subtend equal angles anywhere on the circle. On the Todd-AO screen this has the result that an observer can walk right up and lean his cheek against the screen, and still get a good view of the picture. For the theatre owner, this is important because it means that he will be able to make much more profitable use of the front seats of his theatre than he could with a flat screen.

Eliminates Error

The Todd-AO curved screen is satisfying for another reason. The eyes must be focused and their angle of convergence must always be adjusted for the distance to the screen. A large flat screen has portions at widely varying distances from the audience, and their visual convergence and focus must be constantly changed. This disturbing error is effectively eliminated when the Todd-AO screen is used.

When the Todd-AO screen curves deep into the sides of the audience, a new dimension becomes available which can yield striking realism. Motion is now possible towards the viewing audience and away from it. A ride now seems to carry the viewer forward into the scene as the details slip past him on either side with great realism.

The Todd-AO screen is not only wide and deeply curved, it is proportionately high. Its balanced (2x1) aspect ratio gives to the movie director the privilege of composing his scenes in harmonious proportions.

The sense of motion is tremendously increased because it is not longer directionally confined to one dimension. One of the scenes from "Oklahoma!" shows a crowd of people gathering together at a point of excitement. The interplay of running figures coming down from upper left, in from the left, down from upper right, and in from right catches up the spectator in the excitement of the moment, making him feel as if he were actually participating in the screen action.

Special Screen Material

The Todd-AO screen introduced two very distinct problems, namely reillumination and brightness.

If light shining on one part of the screen scatters onto another part, contrast is reduced, and colors are less bright. Somehow the light had to be thrown back at the audience and not allowed to flood other parts of the screen. This was the reillumination problem.

The other problem was simply that of getting enough light. If the same light as is used in standard 35mm projection is spread over a screen more than four times larger, it will be only one-fourth as bright. The Todd-AO system partially overcame this problem by the use of a larger film, but in addition it was important that the screen act as efficiently as possible in redirecting the light to the audience and not wasting any of it lighting up the walls, ceiling, or the other parts of the screen.

Both of these problems have now been solved by moulding and coating the surface of the screen so as to make the light go in the desired direction and no other.

Plastic-Coated

The result is a screen whose surface is made of plastic-coated cotton cloth. The plastic is deeply embossed with tiny rectangular mirrors (600 to the square inch) and aluminized to give high reflectivity. In each portion of the screen the mirrors are at the correct angle to direct the light where it is needed, and keep it away from where it is not wanted. The invisible seams are made strong, smooth, and free of wrinkles with the aid of a fiber-glass tape on the back. The screen surface conforms with the usual fire regulations and can be easily washed.

Theatre Installation

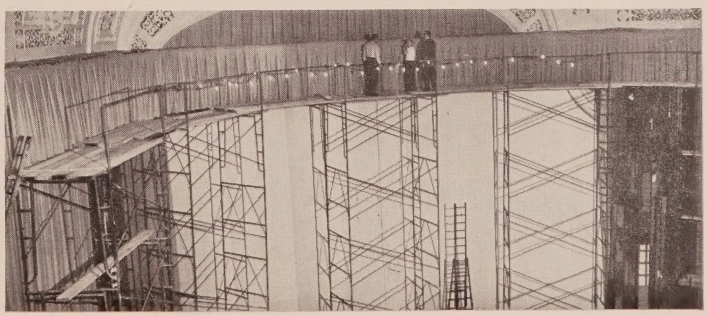
Each theatre installing the Todd-AO process will buy the same basic Todd-AO projection and sound equipment; the type of projection lenses used and the dimensions of the screen will vary in most cases due to the differences in projection throws and auditorium sizes. As a general rule, the preferred screen is the largest screen that it is possible to install in the theatre auditorium.

The Motion Picture Products division of the American Optical Company and the technical staff of the Todd-AO Corporation have studied in detail a great number of theatres of all sizes and can rapidly determine the most appropriate screen size, shape, and location for all types of theatres, after either examining theatre plans or surveying the theatre itself, thereby insuring the theatre owner of the best audience participation for his viewing audience.

Survey Taken

Theatre survey methods have now been devised so as to make them standard and organized to conduct; a major theatre can be surveyed in less than one day.

The installation of all necessary projection and sound equipment, as well as the installation of the screen frame and screen, has been reduced to a standard procedure and to the minimum amount of time. It is estimated that a Todd-AO installation can be completed in approximately two weeks and that this installation time, with more experience and in smaller theatres can be shortened.



A VIEW of the Rivoli audito-ium being prepared to show the Todd-AO wide screen system. It was the first theatre to be fully equipped.

Improvements in CinemaScope

A Report on Recent Modifications and Improvements in Camera Lenses and Film Negative Size Used in Showing of CinemaScope

By Earl I. Sponable*
Research Director, 20th Century-Fox

BRIEF: ***It is usually agreed . . . both by those who favor CinemaScope and those prefering some other process . . . that the introduction of this anamorphic wide screen system was one of the major factors that brought about the rebirth of technical progress recently made in the field of motion picture presentation . . . as well as creating a good deal of interest by the public . . . This article will give the reader a brief review of the early days of CinemaScope . . . and an indication of its acceptance in the world theatre market . . . The rest of the article is devoted to a description and discussion of the improvements made in the CinemaScope process . . . This includes a new series of camera lenses . . . and the facts about the new enlarged film negative which has been developed to improve the quality of the CinemaScope picture.***

You are all undoubtedly well aware of how CinemaScope came to be. It has been extensively publicized, both in the public and trade press; and we will not, therefore, burden you with a reiteration of all its past history. Since this is essentially a progress report, it will be sufficient to serve as a common ground for this discussion simply to say that we should keep firmly in mind that one of the motivating influences which prompted our company to embark on such a radical departure was the conviction, shared by all of us, that something radical was necessary to keep the motion picture business not alone on a profitable basis, but even to keep it alive.

*This article is based on excerpts from a paper read by Mr. Sponable at the April, 1955 convention of the Society of Motion Picture and Television Engineers.

Provide Firm Foundation

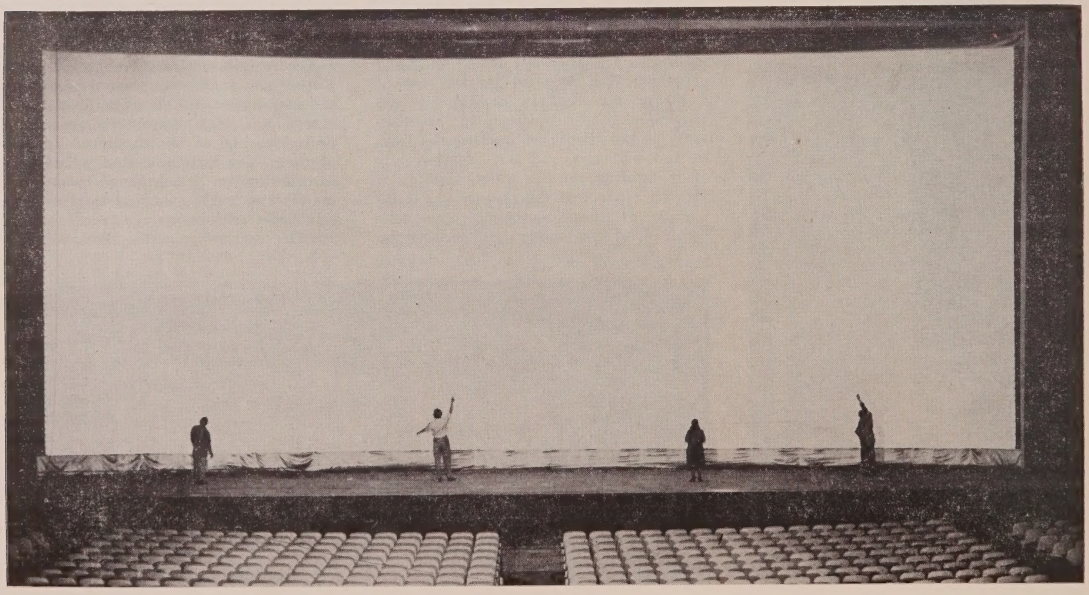
Together with this urgent need, we in the Technical Department of 20th-Fox believed also that it was necessary to provide a firm foundation on which the future could build a continually improving technical structure.

Having once established the premise in our own minds that an entirely new look was required on the motion picture screens all over the world, we set about to determine how this could best be done. We passed up in the beginning such things as picture blow-ups and modifications of optical sound as not providing a worthwhile basis for the future.

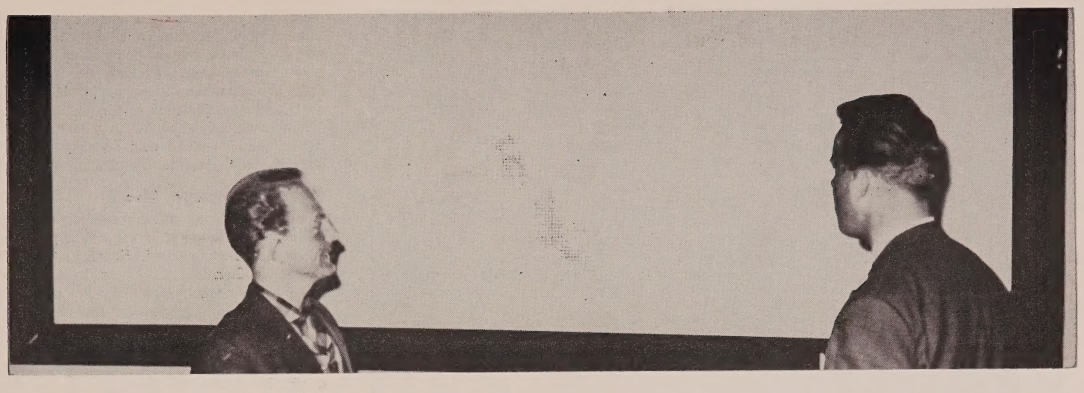
The anamorphic lens manufactured by modern methods gave us the necessary tool to produce a wide picture without the necessity of changing all the projection machines in the country. Here is a point I would like to make very emphatically which is overlooked by most people who consider the problem more or less casually, and that is, if you want a picture which is radically different in format from something which can be readily obtained by simple enlargement — that is, a picture that is strikingly different from the old 3:4 ratio — you simply cannot accomplish the result by any small change of aspect ratio. Furthermore, if you wish to make any use of participation effects which were so ably demonstrated by Cinerama, then according to our experiments, you need at least an aspect ratio eof 1:2.5. This problem is not to be solved by any abstruse considerations of the artistic effects of hanging a picture on the wall. That is not at all what we are trying to do.

Increased Realism

We are trying to bring a sense of increased realism into the theatre. It is obviously true that this could be done by straight projection of film of the same aspect ratio image, large or small, but I think all qualified optical people will agree that there are real gains to be made in optical design by using the anamorphic principle, and we do not intend to lose those gains. World World II brought about the development of the necessary techniques and mechanisms to



THEATRES, as well as the process continue to improve as can be seen at the Sonora, Mexico City, with an 86 by 32 foot CinemaScope screen.



THE CinemaScope process has been accepted all over the world, and in all sizes, as can be seen by the tiny 4 by 10 foot screen installed in a Norwegian screening room. The two figures below show in chart and graph form the number of CinemaScope installations made throughout the world.

make anamorphic systems a commercial reality.

Sound Considerations

Once you reach the point of agreeing that an enlarged picture is desirable — and everybody in the industry now seems agreed on this much at least — it becomes apparent that something must be done with the sound as well; (and the early work of Dr. Harvey Fletcher of the Bell Laboratories on stereophonic sound immediately comes to mind). While there is no doubt that a stereophonic system using optical tracks can be made, it is also equally true that you will ask yourselves, at any period of change, whether anything better is available and, if you study the development work on magnetic sound done by and for the Services during the last war, and by the more fluid radio and television industries, you will ask yourself, as we did, if this was not indeed the opportunity to change to the higher quality, more versatile magnetic system. When we, and the various highly qualified organizations with whom we consulted, had all arrived at this same conclusion, we discussed the matter with the leading recording engineers in Hollywood and found no dissenting opinions as to the basic excellence of magnetic records. We recognized that there would be a period of unfamiliarity in the theatre, with its attendant difficulties, which would have to be gotten over. We felt that the improvement was worth the struggle.

Public Acceptance

It may interest you to have a few up-to-date figures showing the widespread public acceptance of these ideas. CinemaScope was launched on September 16, 1953 with one picture, "The Robe," in the Roxy Theatre in New York, and a few days later in the State Lake Theatre in Chicago and the Chinese Theatre in Hollywood. By the end of the month there were 10 installations; by the end of 1953 there were over 450 theatres fully equipped. The curve (Figure 1) indicates the growth of CinemaScope installations in this country and Canada up until the present time. Unstinted credit is due to all the engineers and manufacturers who sup-

FIG. I

NUMBER OF CINEMASCOPE EQUIPMENTS ORDERED AND INSTALLED
Week Ending April 8, 1955

TERRITORY	NO. OF THEATRES	TERRITORY	NO. OF THEATRES	TERRITORY	NO. OF THEATRES
ENGLAND	937	FRANCE	718	MEXICO	199
AUSTRALIA	426	BELGIUM	327	PANAMA	89
NEW ZEALAND	93	SWITZERLAND	89	ECUADOR	34
SOUTH AFRICA	18	SPAIN	256	COLOMBIA	81
JAPAN	201	PORTUGAL	43	VENEZUELA	68
HONG KONG	42	ITALY	1137	PUERTO RICO	53
SINGAPORE	67	GERMANY	1036	CUBA	131
INDIA	110	HOLLAND	167	TRINIDAD	39
INDONESIA	20	DENMARK	26	ARGENTINA	5
PHILIPPINES	147	NORWAY	34	BRAZIL	127
SIAM	36	SWEDEN	267	CHILE	19
		FINLAND	63	PERU	35
		EGYPT	140	URUGUAY	7
		ISRAEL	8		
		GREECE	34		

Fig. II

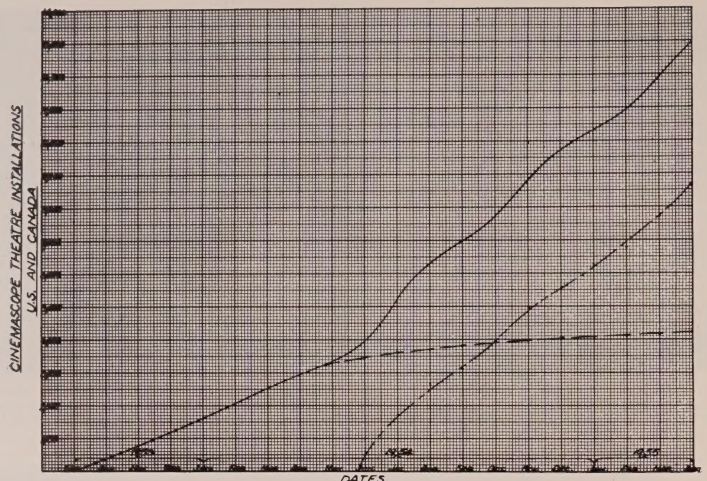


FIG. III

ported this effort and who helped us do this job, and did it so ably. CinemaScope was first shown commercially abroad in London, England on November 19, 1953, followed soon thereafter by openings in Rome, Paris, Sydney and other capitals of the world. The installations in practically all of the foreign countries likewise have grown astonishingly. The chart (Figure 2) shows the wide distribution and approximate number of installations as of April 1, 1955 in these foreign countries. These total 7,329 as of April 1st. In addition to this phenomenal acceptance, practically all of the major producers have joined us in providing product in the CinemaScope process. By the end of 1955 more than 150 CinemaScope pictures will have been finished and released.

Outstanding Contribution

One of the most outstanding contributions made during the past year was the really outstanding optical design work done by Bausch & Lomb. This resulted in the combining of the spherical components of the optical system — that is, the prime or taking lens in the camera — with the cylindrical or anamorphic components all in one housing, and adjustable for focusing and astigmatism by a single knob. The most important result of this re-design was the notable improvement in definition, depth of field and the reduction of distortion at the sides of the image. The formerly used anamorphic attachments were limited in their use to lenses of 50 millimeters or more in focal length. The new series of composite lenses presently cover a range of from 35 to 152 millimeters. Figure 4 shows the first of series available and Figure 5 the recently completed 152 mm. lens which will be particularly useful in projection process work. Figure 5-A shows this in place on a 20th-Fox camera.

The new composite lenses are now in use by all the major producers who are engaged in making CinemaScope pictures, and the resulting improvement in imagery is quite evident in the recent CinemaScope pictures now reaching the theatres.

Room for Improvements

From the very beginning of CinemaScope there have been certain other apparent lines along which improvements in screen quality might be made in addition to that obtained with the new camera lenses. That this was so was evident even in the days when we were making the initial comparative tests between Chretien's anamorphic lenses and large films.

The most obvious thing which we knew even then which would add to CinemaScope quality was improved definition; and it was perfectly evident, then as now, that a larger negative image was one way, at least, to achieve this. To have used a larger negative image on wider film at that time would, however, have involved making entirely new cameras; so instead we used the largest possible area available with standard equipment. This increased frame area of some 32 per cent was of itself a substantial and significant gain over the then standard camera apertures.

Negative Image Size

As to the size of the negative image we have reviewed this subject with great care and have asked Eastman Kodak, Bausch & Lomb, and others, to advise us in those fields in which they are specially skilled. Dr. Higgins, and his associates of the Kodak Research Laboratories, made a study aimed at evaluating what the optimum size of negative image might be, from the point of view of film grain, and information storage capabilities, and where in the laboratory process it would be most efficient to reduce that large negative to a standard 35mm. film. We had also, in our own laboratories, made a similar analysis, and it is interesting and instructive to note that our two results came out essentially alike and indicated that the most desirable negative image size would be one having about two times the present linear dimension of the CinemaScope negative in each direction, or four times its area. This figure appears to be one beyond which there is little, if any, commercial gain and, when weighed against the problems of optical and mechanical design, it seems definitely not worthwhile to exceed. Up to this value of four times area, however, very real improvements in grain and definition are apparent.

Inasmuch as the problems of correcting photographic lenses, like all optical systems, are higher order functions of the diagonal of the field covered, it is also apparent that the nearly square

FIGURE 4 shows the first series of CinemaScope composite lenses which cover a range from 35 mm to 100 mm. The formerly used anamorphic attachments were limited in their use to lenses of 50 mm.

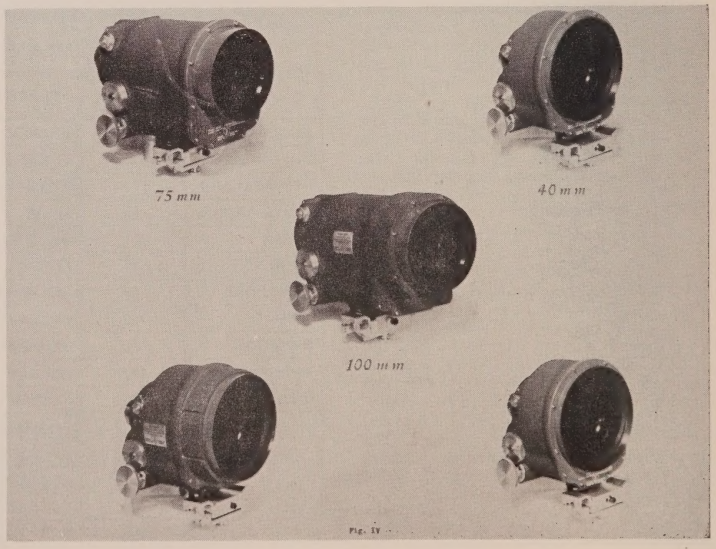
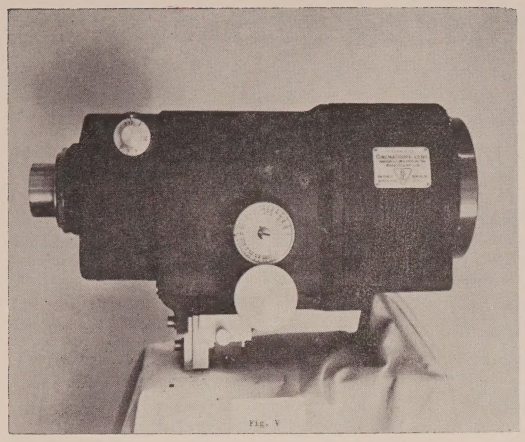


Fig. IV



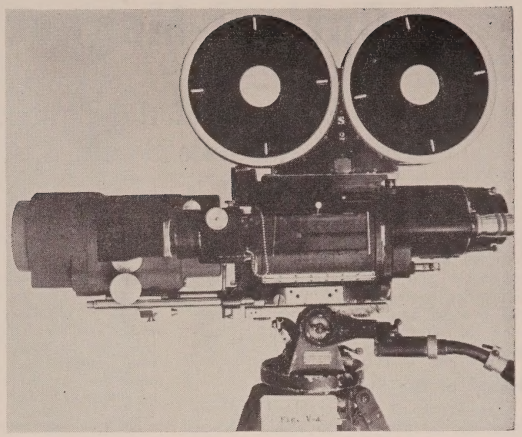


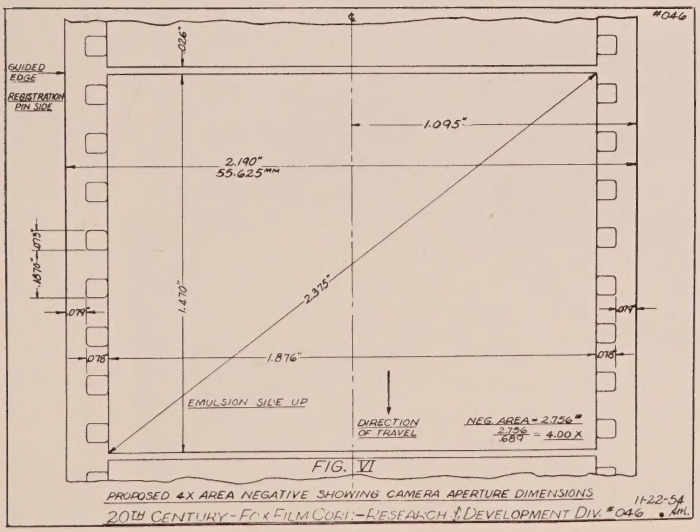
FIGURE 5 (left) shows the recently completed 152 millimeter lens which, it is reported, will be particularly useful in projection process work. Seen (right) is the 152 mm anamorphic lens attached on a 20th-Fox CinemaScope camera. The pictures taken with the new lenses have resulted in better films.

format of the CinemaScope frame is a further added advantage. Since the diagonal of this 4X frame is substantially equal to that of the old 70mm. Grandeur film which had an area increase of only about 2.3 times our present CinemaScope negative frame, it will become immediately clear that our proposed new frame has almost twice as much information recording surface as any other suggested large screen process. This extra area is very important indeed when you consider the added grain and loss of definition incidental to the duping process, the introduction of effects of all kinds, and such further definition loss as may be due to dye migration or bleeding in some color processes.

Uses Area Efficiently

Studies indicate that this four-times area frame can be put on piece of film 55.625mm. wide (Figure 6) using all the area efficiently, and making use of the CinemaScope perforations which, incidentally, have caused no trouble whatever in the field and have even yielded longer life than we anticipated. This width figure comes about very simply by taking two times the present CinemaScope camera aperture, adding the widths of two rows of perforations and the standard protective edges outside the perforations, making proper allowances for manufacturing and other tolerances.

Bausch & Lomb has designed new taking lenses to cover this additional frame area, and has delivered the first sample lens; their design considerations have taken into account such very important relationships between focal length, depth of field and camera position, an experimental camera has been built; and we have made test photographs. These support our conclusions in every way. Furthermore, Bausch & Lomb has designed a new 2:1 reduction printer lens which yields a print from this enlarged negative of excellent quality over the entire frame. We have also undertaken to design and build pilot samples of the other necessary printers for making all the fades, laps, dissolves, matte shots, etc., which enter into the production of the modern motion picture, as well as release printers and laboratory processing equipment.



Make Information Available

It is our plan, after demonstrating the possible results, to make available to those making CinemaScope pictures, design information and assistance enabling them to use this optimum size negative and to make CinemaScope standard release prints of greatly improved quality for all theatres. We are also considering making a limited number of release prints of some special pictures for road-shows of a larger projection frame area, and used under improved projection conditions. These prints may also carry extra magnetic sound-tracks.

The General Precision Laboratories, Inc., have made studies, independently, of the optimum size film for handling in the theatre. Considerations of wear in the projector, life of the film, steadiness of the image on the screen, and all such factors were taken into account. Their conclusions, like ours, were that for material like our present motion picture film, a width in the range of approximately 50 to 55mm. was about as much as could be handled with expectations of long film life and good operation under commercial conditions. Further, distributing the light and heat over a larger area frame is advantageous. Improved projector mechanisms and cooling methods would alleviate the problem of maintaining good focus in the theatre. So also would the longer focal length lenses which would be used. Again, the lower magnification of the positive image in the theatre should yield still further improved picture quality.

Optical-Magnetic Sound System

A Description of the Equipment Necessary for Combination Optical-Magnetic Sound Systems in Motion Picture Theatres

By JIM MAHON
Ampex Theatre Equipment Sales Manager

BRIEF: *There are many exhibitors who today find themselves in a position where the type of sound system they have in their theatres will determine print availability . . . Naturally . . . the necessity of having to produce prints with optical sound tracks . . . single channel magnetic sound tracks . . . Perspecta sound tracks . . . and full three and four channel stereophonic magnetic sound tracks . . . creates a serious problem for the distributor and exhibitor . . . This article is a description of a sound package being offered by one of the sound equipment manufacturers which makes it possible to use all types of magnetic and optical sound prints now available . . . The author goes into detail about each of the major pieces of equipment used in the various systems available . . . describing their construction and the role they play in the complete assembly . . . Is is very likely that such a combination sound system might be the answer for many exhibitors . . . and the article is worth some study.*

With the current situation in conventional and drive-in theatres, most exhibitors find it necessary to use both magnetic and optical sound systems, depending upon the print availability and the process used. The Ampex Corporation is offering a combined optical-magnetic sound system.

Heart of the System

The heart of the combined optical-magnetic Ampex theatre sound system is the control box. Here, on one small box, to be located on the front wall of the projection room, are *all* the controls needed for complete operation of the most complex installation.

Changeover from projector to projector is accomplished on the single changeover switch provided, with extension handle, if needed, regardless of the kind of sound in use at any time. No matter if the system is adjusted to operate with magnetic sound from CinemaScope films, single-channel optical sound, or even multi-channel Perspecta Sound, this single changeover lever does the job. It is provided with a spring-loaded connection, when the extension rod is used, which assures positively that the switch cannot be damaged by vigorous operation of the changeover rod.

Switches are also provided, on this control box, for selection of stereophonic magnetic, normal optical, Perspecta, or non-sync sound sources.

An emergency switch is also provided. This functions to take advantage of the systems' three-power amplifiers, three preamplifiers, and three stage loudspeakers, to return the system to single-channel operation, and continue the presentation of all the sound on the film sound track, even in the case of the failure of one or two amplifiers, preamplifiers, or stage loudspeakers.

Finally, even the master volume control is included on the control box. This control box measures only 14 inches high, 10½ inches wide, and four inches deep.

Magnetic Reproducers

Every system, regardless of price, includes two model 6400 magnetic reproducers. This precision reproducer mounts on top of the projector head, below the supply reel, with easily mounted adapters (included in the price of the system) which fit all standard American projectors, and automatically set the magnetic pickup heads at the correct distance from the projection aperture.

Incorporating highly refined "Davis Drive" tight-loop construction, these magnetic reproducers have been installed in the costliest magnetic sound installations in the nation. Every moving part within the reproducer employs precision ball bearings, pre-sealed for many years of trouble-free service, without oiling or attention of any kind. The "dash pot" damping device, of the pneumatic type, requires no oiling, and no periodic refilling.

The magnetic pickup clusters, mounted inside the heavily shielded case, are of the same design as those used in the Ampex tape recorders, and bear a 750 hour operating guarantee.

The reproducer is illustrated in Figure 1. Extremely simple threading, with automatic tension positioning, together with automatic locking of the sprocket wheel during threading, and automatic

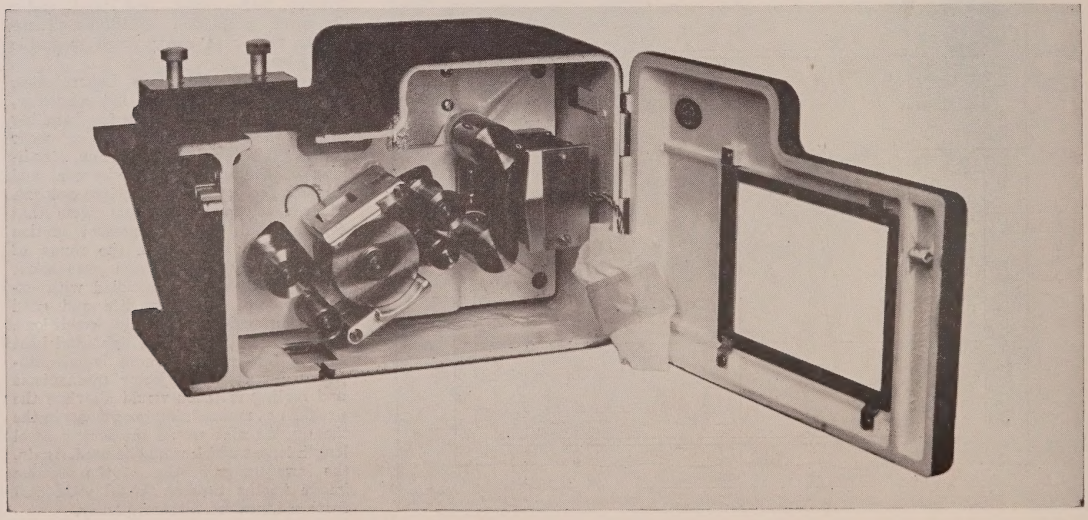
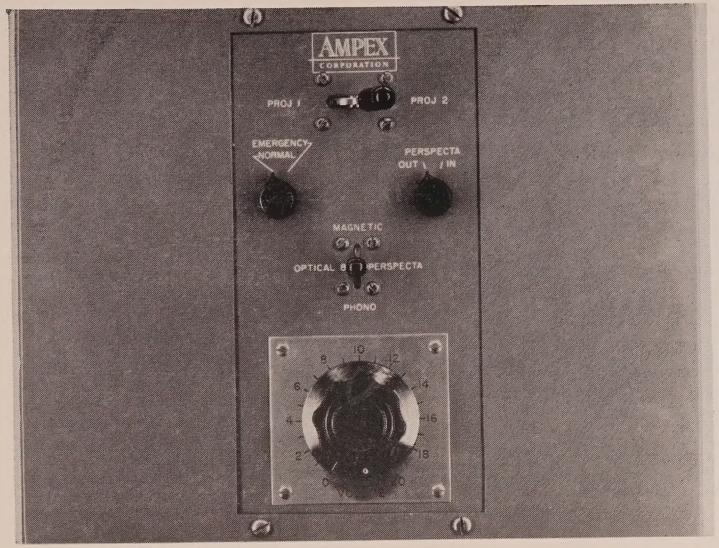


FIGURE 1 shows the magnetic reproducer used in the Ampex sound system. It contains a number of automatic features to simplify its operation.



THE AMPEX combined optical-magnetic theatre sound system control board, seen at the left, is the very heart of the installation setup.

warning in case the projector is started without closing both keeper flanges, are provided in all reproducers. Film with optical sound tracks, of course, may be threaded around the rollers on the left of the reproducer, without passing over the magnetic heads.

Special Cables Provided

Specialized four-conductor cables, manufactured to our specifications for use with magnetic sound, enable the theatre to install the amplifier cabinet at any reasonable distance from the projectors, to locate the cables for maximum convenience, and to assure correct connections, and are included in every system.

Preamplifiers

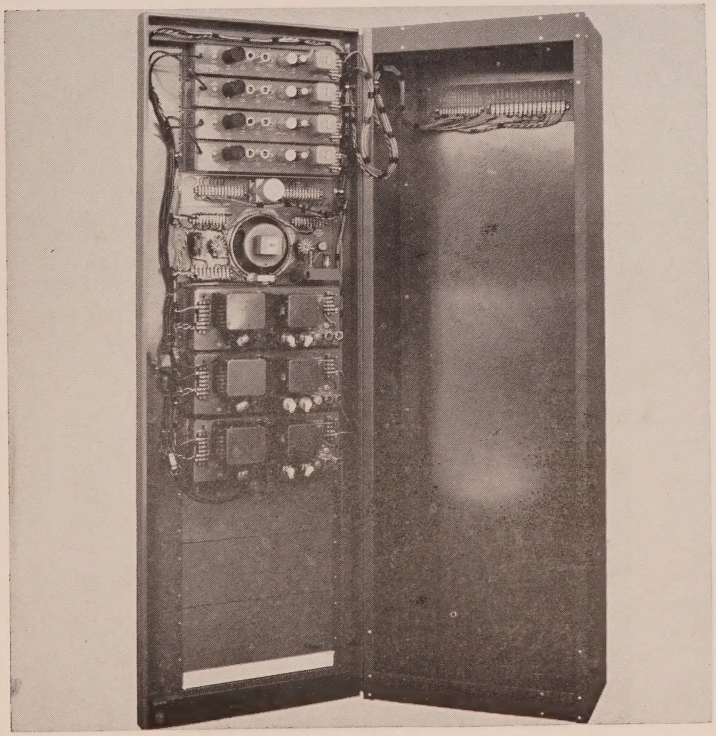
High-quality preamplifiers are used for all types of sound. The output of the magnetic reproducer heads is fed, through the switches in the control box, directly to the input of the magnetic preamplifiers. The output of the theatre's optical soundheads is fed to the changeover switch in the control box, and then to an ingenious filter. This filter includes provision for adjustment of the frequency response of the optical system to Academy or other desired characteristics. The filter alters the level and character of the electrical signal from the optical soundheads so that, to the preamplifier, the signal is similar to that which would be delivered from a magnetic pickup head. Thus, a single type of preamplifier serves ideally for both optical and magnetic sound.

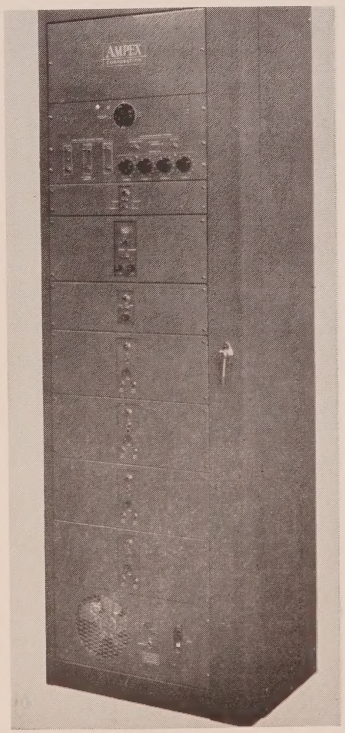
Adjustable PEC Bias Provided

DC bias for the photo-electric cells in the theatre's optical soundheads is provided by our system. In master systems, this voltage is derived from one or another of the power amplifiers; in the deluxe system it is supplied from the

FIGURE 3 (right) and 4 (left) illustrate a three-channel combined optical magnetic master system. The cabinet shown is of the front opening type.

All connections to and from the front wall, and to AC power sources are brought to convenient terminal panels inside the cabinet, clearly marked.





dual high-voltage supply in the equipment cabinet. This voltage is fed, through a cable, from the equipment cabinet to the control box, where individual screwdriver adjustment is provided for bias to each photo-electric cell.

Low Impedance PEC Output

In order for the optical system to function correctly, it is necessary for each optical soundhead to be equipped with an output transformer, for PEC-to-line operation. Many optical soundheads already have these transformers installed; in all of those which are not now so equipped, adequate space, within the steel framework of the soundhead, is available. Exciter lamp voltages are *not* included in the combined system package. In any installation where these are required, they may be supplied at extra cost.

High Level Volume Control

Every combined system contains four-channel magnetic pickup head, and cables. There is a new low package price for the equipment necessary to reproduce the fourth or "surround" channel. Three-channel systems are equipped with three separate magnetic preamplifiers; the fourth preamplifier and 12 kilocycle silencing amplifier are included in the fourth channel kits. After the three or four channels of magnetic sound, or the one channel of optical sound, are amplified by the preamplifiers in the equipment cabinet, the signal is returned at high level through cables to the control box, where the system volume control is located. From here the electrical signal is returned, again through cables, to the high-quality Ampex power amplifiers in the equipment cabinet.

Equipment Cabinets

Figures 3 and 4 illustrate a three-channel combined optical-magnetic master system. The equipment cabinet shown is the front opening type. The complete system price on all Ampex combined optical-magnetic theatre sound systems includes an equipment cabinet which may be ordered either of the side opening or back opening type. All connections, to and from the front wall, and to ac power sources, are brought to convenient terminal panels, inside the equipment cabinet, clearly marked for easy installation and connection.

Full Monitor Facilities

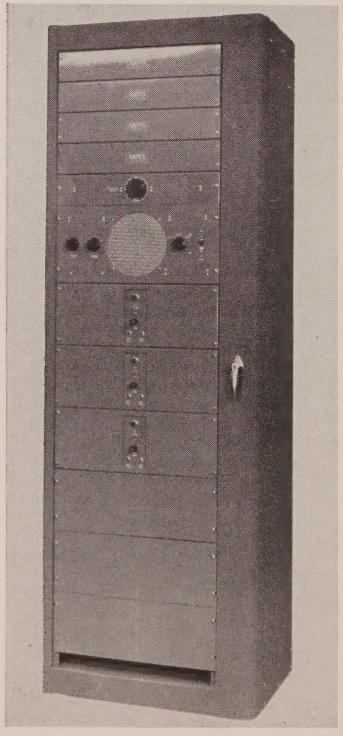
In each of the equipment racks of the master series systems is a monitor panel, containing a single loudspeaker, a small power amplifier, and a selector switch on which the operator may select the output of any one of the three stage-speaker amplifiers, the fourth channel of magnetic sound, or all channels simultaneously. This monitor functions, no matter if the sound is single-channel optical, Perspecta, or three or four-channel magnetic. The monitor system has its own volume control, and the panel contains the master power circuit breaker for the system.

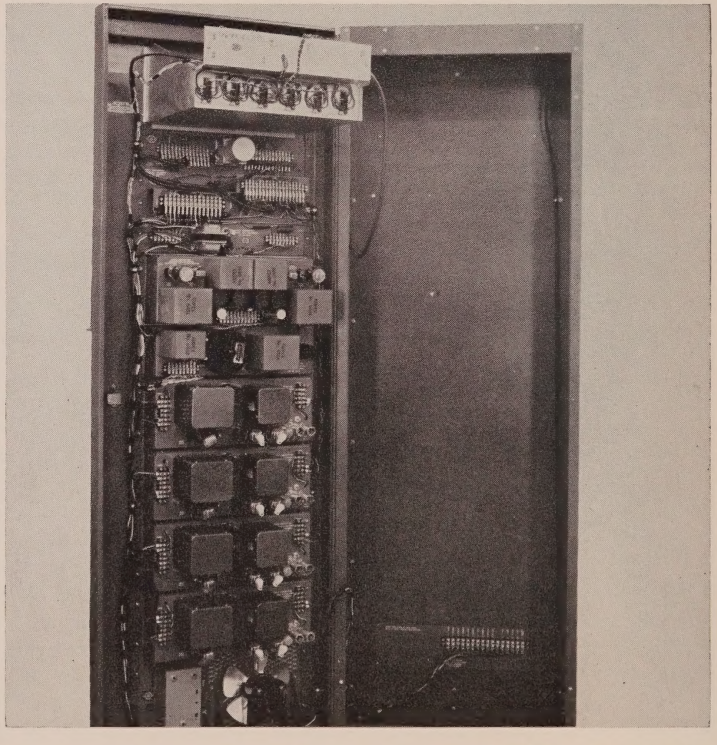
Deluxe series combined optical magnetic systems contain, in addition to all the features found on the master systems, additional convenience in the use of plug-in preamplifiers and 12 kilocycle silencing unit, and in the provision of additional emergency switch facilities. DC filament supply for the preamplifiers is used, and an emergency switch will instantly connect a spare ac filament supply in emergencies. High voltage dc for the preamplifiers is provided from a sturdy, dependable dual high voltage supply, which contains not one but *two* completely separate high voltage dc supplies, one held always as a spare in case of emergency, and available instantly at the flick of an emergency switch.

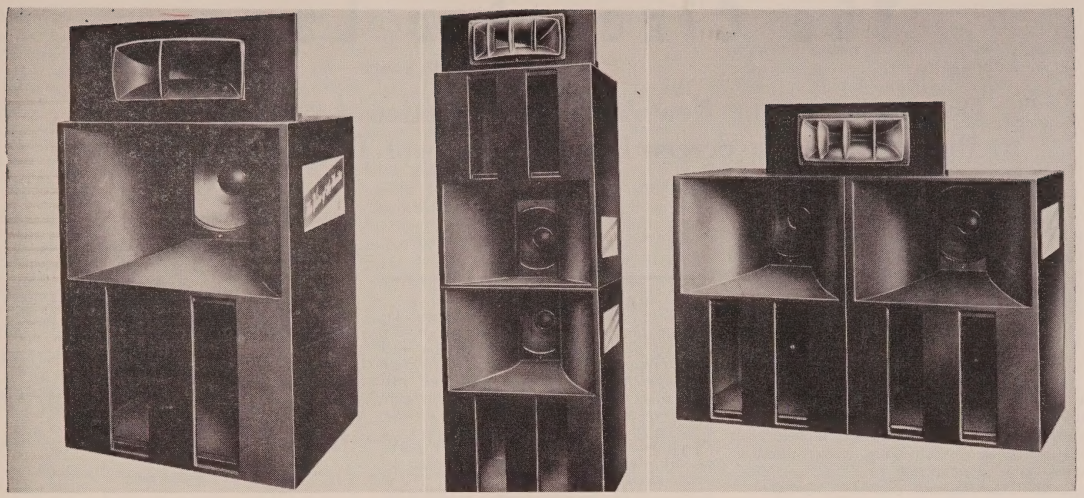
More Emergency Features

Monitor facilities in deluxe systems consist of four separate loudspeakers, each with its own individual volume control, so that any combination of one, two, three or four-channel may be monitored. Provision is made, also, for preservation of the stereophonic effect in case of the loss of any one amplifier. Emergency switches, on the illustrated monitor and emergency panel, will substitute the fourth power amplifier for any one of the on-stage amplifiers in case of an emergency. Under these circumstances, the full stereophonic effect is preserved for the stage speakers, the temporary loss being only of the "sur-

FIGURES 5 (left) and 6 (right) show opened and closed views of equipment cabinet used in the deluxe optical-magnetic sound systems. The monitor facilities in these systems consist of four separate loudspeakers, each with its own individual volume control. Other emergency features are included.







round" system. This feature, of course, is not provided when deluxe systems are installed with three amplifiers only.

Simple Addition for Perspecta

Throughout the master and deluxe combined optical-magnetic theatre sound system, provision has been made for easy addition, either on first installation or at any later time, of a Perspecta Sound integrator. The control box contains the necessary switching to feed the optical sound track from a Perspecta Sound print from the output of the preamplifier to the input of a Perspecta Sound integrator, and to connect the three output channels of the integrator to the system volume control, on the front wall control box. Only the Perspecta Sound integrator and its connecting wires need be added. In all master and deluxe systems, except the deluxe 30 watt, space is available in equipment cabinet or cabinets for the Integrator.

Stage Speakers

While every Ampex theatre system is available without stage loudspeakers, the package price for all combined systems, of both the master and the deluxe series, included appropriate stage loudspeakers of the highest possible quality, at competitive prices. The 20-watt master system uses the famous Altec A-7 speakers, newest in the line of this famous equipment maker. Incorporating an all-new high frequency horn, capable of wide angle dispersion, and smooth wide-range frequency response, this speaker has quickly earned a high reputation for itself in the theatre industry. Stereophonic sound, especially, requires wide distribution of all frequencies for effective presentation.

The 30-watt master systems use the Altec A-6 stage loudspeaker, with two separate low frequency units, and flexible arrangement facilities for the baffles to operate satisfactorily on any stage, even under crowded circumstances. The speakers are of the same general design as th A-7, but of higher power handling capability.

MASTER SYSTEMS use A-7 and A-6 Altec Lansing speakers (above). In addition, the Ampex 5030 loudspeaker system (below) may be had with any system used. Either system gives good results.

Sixty watt master systems are equipped with either time-proved and popular Altec A-4 stage loudspeaker systems, or with the new Ampex 5050 systems, at the purchaser's option. The same option is offered with deluxe 30-watt systems.

Sixty-watt deluxe systems are provided with the Altec A-4X System, while the 120-watt deluxe systems carry, as a part of the package price, the famous Altec A-2X Systems.

Ampex Speakers

Ampex model 5030 loudspeaker systems, very similar to the 5050, except for the use of a single low frequency unit instead of two, are available with any system.

These loudspeakers were designed, along with their companions, the 5030's, as a part of an Ampex engineering program to realize the maximum possible effectiveness in the theatre for magnetic stereophonic sound. The program aimed at establishing the design of a system in which *intelligibility* in the reproduced dialogue, and *realism* in music and sound effects, were the central aims. It has long been agreed, among loudspeaker designing engineers, that any two-way theatre system needs special attention to the crossover network and the mechanical elements of the system which determine the response of the system around the crossover frequency. This is because all low frequency-units are of a kind very different from the high frequency components. Their inter-action, at the crossover frequency region, where both are contributing sound, often leads to interferences which disturb intelligibility. The critical importance of smooth frequency response, uniform dispersion, and minimum phase disturbance in the crossover region was fully realized by our engineers. The most careful steps have been taken to assure near perfection of performance in these fine speakers in this critical listening area.

Months of experimentation, in an actual and typical theatre, led to the manufacture of the two types of speakers, each with its own individually fitted crossover network. "Front of screen presence" has been accomplished, not only by careful control of the crossover network itself, but by optimum arrangement of the physical spacing between high frequency and low frequency sound producing components. A new, wide angle high frequency horn has been adopted, which effectively distributes the high frequencies over every seat in the theatre, while, in the 5050 the low frquency units have been splayed so as to accomplish the same result at the middle and low frequencies. The result is a theatre installation in which the full rich bass tones of music are firmly and solidly presented without any trace of "boominess" in dialogue in which every voice stands out clearly "in front of the screen" easy to understand, clear and crisp.

The Cinex Arc Lamp

A Description of the New Ashcraft Projection Arc Lamp Designed to Meet the Theatre Screen Lighting Needs of Today and Tomorrow

By C. S. ASHCRAFT
President, C. S. Ashcraft Manufacturing Co., Inc.

BRIEF: ***This article . . . prepared by one or the outstanding pioneers in the field of projection arc lamp design and manufacture . . . describes a lamp that was specifically designed to meet the ever increasing demand for more light to paint the giant wide screens of the modern indoor and drive-in theatres . . . There is data on the component parts of the new lamp . . . the results of tests taken to prove its ability . . . a discussion of the new air system designed to keep all parts of the lamphouse cool . . . and similar information which should be of interest to a theatre operator looking for a projection arc lamp that will meet his present needs . . . and the demands of the foreseeable future . . . The article is worth careful study.***

The Cinex is a projection lamp so powerful that its operation in the higher current ranges, for which it was specifically designed, is entirely unnecessary for even the largest present-day drive-in and indoor theatre screens.

Unlimited Possibilities

The Cinex has unlimited possibilities —with an enormous reserve—for the inevitable wider films and larger screens of the near future. We believe a long range view, by the exhibitor, in selecting a new projection lamp, is extremely wise. Only a relatively small portion of the light the Cinex is capable of delivering may be necessary at this time. In a short time, however, new processes may make the use of more light essential. The reserve power of the Cinex will still be adequate for any eventuality.

The events of the last few years have demonstrated to the motion picture industry that large pictures both for indoor and drive-in theatres are here to stay. The shape or aspect ratio may vary but it is absolutely inconceivable that the screens will ever return to the small sizes of a few years ago.

More Light Needed

In order to illuminate these pictures to the intensities which have been recommended by the Academy of Arts and Sciences, more and more light must be made available to the screen. Up to the present, existing arc lamps have been modified and boosted beyond their usual ratings and operating loads to make an attempt toward greater light production. Such adaptations and "forcing" have never been too satisfactory.

Motion picture developments have been progressing so fast during the last couple of years that practically all existing lamp models have become obsolete. Now, we feel, is the time that a complete departure from previous lamp design must be made. In order to have a long, useful life, this new design must be capable of accommodating, not only most of the present carbon trims, but all of the new carbon sizes which the manufacturers might bring out in the foreseeable future. Other paramount features of the new design must be an extreme high efficiency coupled with maximum operating economy.

Tremendous Range

With these principal requirements in mind, the Ashcraft Cinex motion picture projection lamp was created. The Cinex may be operated with practically every size of high intensity carbons now being manufactured or being considered, and can deliver to the screen the highest amount of light produced by these carbons. This lamp is capable of operating over a tremendous range of current to conform with the following carbons and their operating loads.

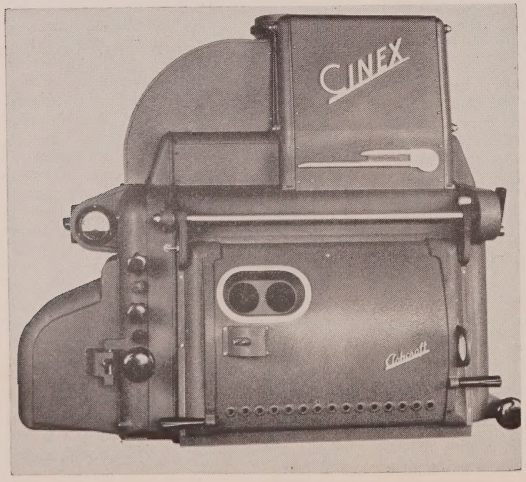
9mm Standard High Intensity Carbon	at 80- 90 amps
10mm Standard High Intensity Carbon	at 90-105 amps
10mm Special Carbon	at 125-135 amps
11mm Standard High Intensity Carbon	at 115-128 amps
11mm Special Carbon (Future)	at 150-160 amps
13.6mm Standard High Intensity Carbon	at 140-170 amps

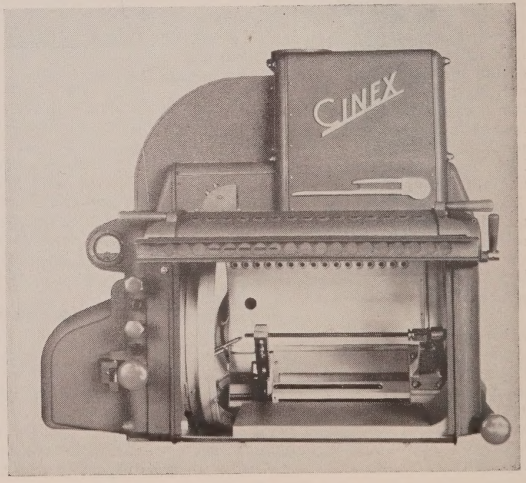
18-inch Reflectors

The Cinex is equipped with 18-inch reflectors and when correctly aligned with a projector, this lamp optical system can provide a speed of f/1.64 which is better than the newest projection lenses. This new lamp will produce an increased amount of light when used with the older slower speed lenses, but is will operate at its maximum efficiency when used with the new f/1.7 lens which are now coming on the market.

As mentioned above, the maximum speed of this optical system is f/1.64, and it is obtained when the working distance back of the reflector (at center hole, to aperture) is 34 inches.

Since the speed of the reflector is the working distance minus the depth of the reflector, divided by the diameter of the reflector, the light output of the





THE CINEX projection arc lamp, seen below in closed and open views, has been designed to deliver the light needed for wide screen films.

lamp for a given current depends on the distance the reflector is located from the projector aperture.

It may not always be possible to obtain the working distance of 34 inches because of the construction of certain projectors. The majority of the various types of leading projectors, however, lend themselves to this high speed system.

With high speed projection lenses of f/1.7 and f/1.8, there is an advantage if the speed of the lamp is greater than that of the lens. The best average conditions are when the working distance is 34½ inches, and the lens speed is f/1.7, although excellent results will be obtained with f/1.8 objective lenses.

Tests

Tests with the Cinex have shown the following results:

Carbon Trim	*Arc Current*	*CinemaScope Aperture Total Lumens*	*Standard Aperture Total Lumens*
10mm High Int.	95-100 amp	34,000	26,000 (low range)
*11mm High Int.	125-130 amp	36,000	27,500 (nor. range)
10mm Special	135 amp	36,000	27,500 (nor. range)
13.2mm High Int.	160 amp	41,500	32,000 (high range)

Note: High intensity reflector lamps other than Cinex using the 11mm carbon in the 120-125 amps range produce approximately only 21,500 lumens with standard apertures.

In order to follow standard, comparable measuring procedure, these light readings were made with a 3.5-inch focus, f/1.7 lens without shutters and without any heat filters. However, for actual theatre operation, it is definitely recommended that heat filters be used, and the Cinex is provided with the best available dichroic heat reflector filters. It is further recommended that projectors be equipped with aperture gate, air jets and possibly with aperture gate, water-cooling devices.

Heat Filter Protection

If, as recommended, dichroic heat filters are used, it would be wise to give them the proper protection in order to get the maximum benefits and life from these filters.

The heat reflecting film deposited on the heat filter is not indestructible, nor is the transparent plate on which it is deposited. A severe concentration of the light beam on the plate may discolor the film or crack the transparent plate, if it is made of Pyrex. If made of pure quartz or Vicor, there is much less danger of cracking the plate, but discoloration may occur. In order to prevent either of these dangers we suggest the following:

1. Do not place the dichroic heat filter in the lamp until the arc has been focused properly on the aperture, and the screen light is satisfactory.

2. Do not focus the light beam on the aperture in such a manner that the screen light is bluish. This indicates too small an aperture spot and a highly concentrated beam spot on the filter. The light should be white and well-distributed over the screen surface. This will enlarge the spot on the filter.

3. Do not take a chance on too short a positive carbon at the start of a reel. If you run out of carbon, and continue to let the arc burn, it will gradually move the focus of the spot from the aperture to the filter, with possible damage to the filter. In other words, as the carbon burns away from the reflector, the normal aperture spot will move toward the filter.

4. Keep the filter clean. Finger prints or dirt will localize heat, placing undue stress on the filter and the plate, in addition to obstructing light. Cleaning may be done by washing with cotton in a mild detergent and water.

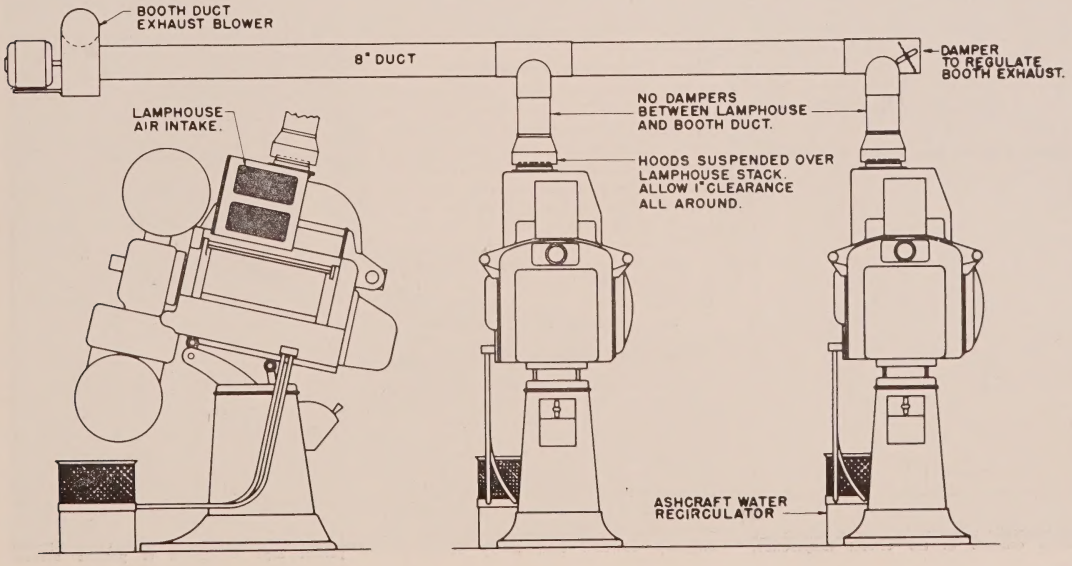
High Collecting Value

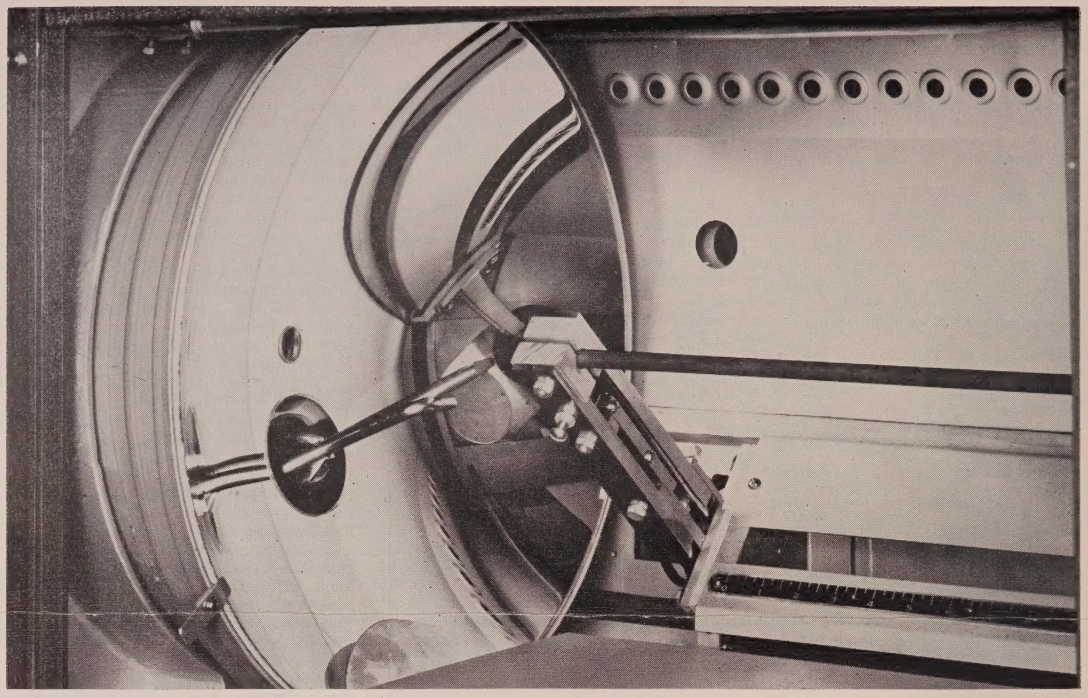
The high efficiency of the Cinex is due to the high collecting value of its reflector which projects a wide cone of light to the film gate. Care must be taken that projector housings and shutter frames will not interfere with the maximum passage of light.

It can be seen from the above result, that the Cinex, under optimum conditions, will generate from 26,000 to 32,000 lumens through a standard .825 by .600 film aperture and from 34,000 to 41,000 lumens through a full .912 by .715 CinemaScope film aperture. These are the highest values yet attained by any production-type commercial lamphouse.

The mechanism inside the Cinex lamphouse has been made extremely simple. Even the tremendous arc power has very slight effect on the wear and tear of all parts. This promises a long, economical operating life. The two solid-silver, contact jaws are both intensely water cooled and practically indestructible. These jaws are located only three-fourths of an inch behind the carbon crater, but they are so cool that they can be grasped by the human hand

THE recommended booth exhaust system for use with the Cinex is indicated in diagram below.





CLOSEUP view of the new 18 inch reflector, which is one of the key features of the lamp.

immediately after a 13.6mm arc operating at 180 amperes is broken, which indicates complete heat transfer.

Air Circulating System

A new air-circulating system has been conceived for the Cinex. The lamphouse blower system takes cold air from outside the lamp and directs it in a carefully designed pattern over the filter, through the hollow walls and ducts, across the reflector and ejects it into the projection room's exhaust stack.

This air-conditioning system keeps all parts of the lamphouse extremely cool, eliminates overheating of the large reflector, steadies the operation of the arc flame, and makes the lamphouse practically independent of the variable drafts from the booth's exhaust system. The air which sweeps across the reflector keeps it cool, prevents undesired strains and stresses in the glass, prevents cracking, and maintains the glass surface free of pits, soot, and ash deposits. The Cinex is the first reflector lamp that can handle the 13.6mm carbon arc safely and efficiently. Even after 20 minutes of operation at 180 amperes, the reflector may be touched and handled without harmful consequences.

New Projection Procedures

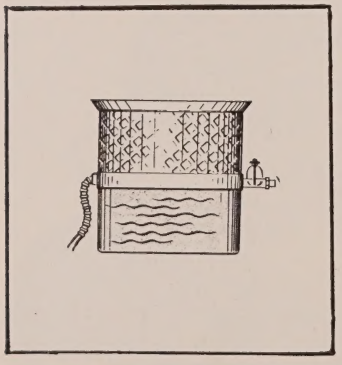
The amount of light which can be produced with this new lamp may open up some new procedures in projection. Even allowing for heat filter, shutter and lens losses, it will be possible to project CinemaScope pictures up to 80 feet in width and still maintain a brilliancy of 10 foot-candles at the center of the screen. With this amount of light it may be possible to use white matte screens in order to improve the reflected light distribution pattern in the orchestra and balconies of large theatres.

Obtaining Maximum Screen Light

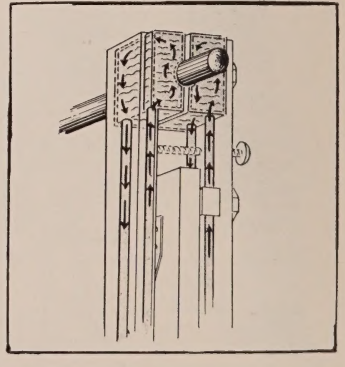
The following procedures should be followed in order to obtain the maximum light on the theatre screen:

After the lamp has been optically aligned with the projector, set the end of the positive carbon ⅞ of an inch from the silver contacts. Start the projector, then project light on the screen. Move the crater of the positive carbon slightly toward and away from the reflector, keeping the arcgap constant. A point will be found where the light will be brightest with the best screen coverage. If this point does not coincide with the lines on the arcscope screen, the image can be moved on the screen by releasing one of the locknuts on the arcscope mirror adjusting screws, located on the arcscope cover, and turning the screw slightly with a screw driver until the image of the positive carbon is on the left-hand line, and negative on the angular right-hand line of the arcscope screen.

For the drive-in theatre, where four foot-candles seem to be the normal required brilliancy, these lamps should assure well-lighted CinemaScope pictures having a width of 130 feet or wider.



AN automatic water recirculator maintains the carbon contacts at the correct temperature.



HEAVY duty water-cooled carbon contacts permit perfect high conduction to positive carbon.

Stereophonic Sound Maintenance

A Thorough and Valuable Guide to the Procedures and Equipment Necessary to Keep Magnetic Stereophonic Sound Systems in Proper Working Condition

By L. PATTON and C. A. MCCRORK
Eastern Division Manager, Philadelphia Branch Manager
Altec Service Corporation

BRIEF: ***At this time a large number of theatres have installed magnetic stereophonic sound systems . . . and have had them in operation for at least one or two years . . . Now that the newness has worn off . . . the question of proper maintenance becomes increasingly more important . . . It is the purpose of this article to give the exhibitor . . . and his projectionist . . . a solid working knowledge of what is involved in the servicing and maintenance of these sound systems . . . The article also makes clear what the theatreman and his staff can do to keep this expensive equipment in perfect working order . . . and just as important . . . what he should not attempt to do but leave for the trained sound service engineer . . . The two authors are acknowledged experts in the field of theatre sound . . . and both are finely grounded in the numerous complex phases of stereophonic sound installations . . . It is all to the advantage of the reader to make use of the years of training and experience which the authors have graciously put at their disposal.***

Despite the enthusiastic reception accorded the advent of stereophonic sound for motion picture theatre use a few short years ago, there is nothing particularly new about this highly effective audio technique. As long ago as 1933, successful demonstrations were achieved by Bell Laboratories. The advent of CinemaScope and wide screen projection happily has brought it into general theatre use.

Three Dimensions

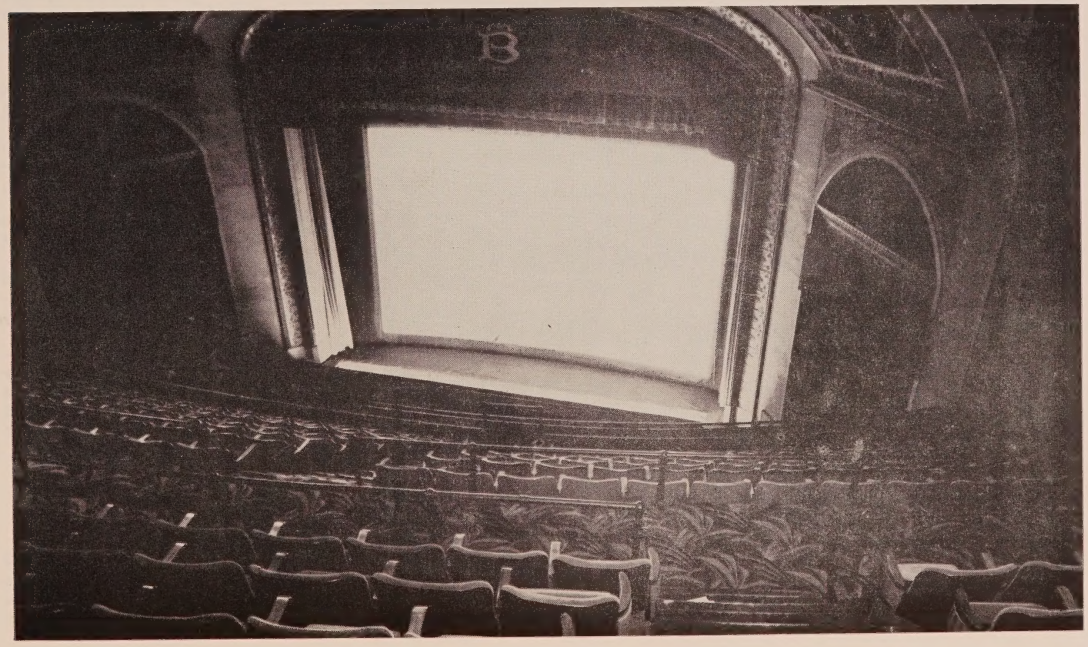
There are many in the industry who labor under the impression that stereophonic sound has one, and *only* one, function, that of providing directional sound. Actually, it possesses three dimensions, shall we say, as set forth below.

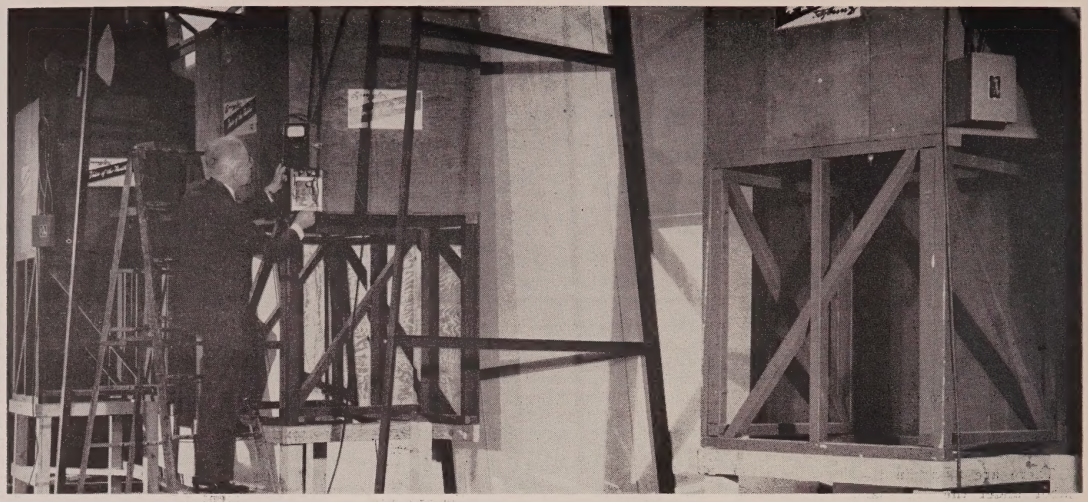
1. **DIRECTIONAL EFFECT: The sound actually travels to the right and to the left on the screen in company with the movement of the performer.**
2. **DEPTH: As the performer moves upstage or downstage, stereophonic sound conveys the illusion that the sound is moving away from you, or toward you.**
3. **REALITY: There is a certain "presence," aside from frequency response, which is not too easy to explain. Proof of it may be found by a simple procedure. While some one is talking to you, close one ear with your finger. Other than a slight drop in volume, there will be a lessening of reality.**

Theoretically, the ideal stereo system would consist of an infinite number of horns back-stage; likewise, the pickup in the recording would be accomplished with an infinite number of microphones. The investment for equipment required makes this commercially impractical. Consequently, as a compromise, CinemaScope utilizes three sets of horns. However, the highly successful Cinerama process and the Todd-AO system employ five sets of horns, with corresponding effective results.

In stereophonic sound the frequency response at the higher end of the spectrum is not as critical as in optical sound. This is because of the fact that the "presence" is largely maintained by the "realism" mentioned in describing its three dimensions. However, while the overall response may be rather broad

THEATRES, such as the Boyd, Easton, Pa., have installed magnetic stereophonic sound systems. Now that the newness has worn off some of these systems it is more important than ever that exhibitors and projectionists take all the necessary precautions to guarantee the high quality of sound.





MATCHING the characteristics of the three speaker systems by means of poling, phasing, shelving and positioning assures uniform sound distribution of full frequency range to all parts of the auditorium. This is a task that should never be undertaken by anyone but the trained sound engineer.

in comparison to mono-aural sound, the variation between the channels is very critical, and should be held with close tolerances. The same holds true for volume between channels.

WHY MAGNETIC RECORDING

Continued experience by the radio industry and those engaged in the manufacture of records has proven that magnetic type recordings are superior to optical or disk recordings. Not only can a better job be done in extending the frequency range, but smoothness and quietness are more readily obtainable. When applied to the reproduction of motion picture sound, where the film is subjected to great heat and extraneous magnetic fields, problems of noise arise not heretofore encountered. These problems can and have been overcome through the employment of certain routine testing techniques and degaussing.

Insure High Quality

To insure consistent high quality of stereophonic reproduction, it is necessary that performance be correct in the following aspects:

A. Output level of the three channels balanced (Adjustments conducted by service engineers, but daily check made by operator).
B. Correct frequency response (by service engineer).
C. Uniform frequency response of the three channels. (Adjustment by engineer following projectionist check).
D. Noise level low. (Checked by projectionist.)
E. Phasing between high frequency and low frequency of each speaker system. (Checked and adjusted by field engineer, there should be no necessity to change following adjustment.)
F. Correct phasing between stage speaker systems. (Adjusted by engineer.)
G. Stage channels balanced acoustically as to both level and response. (Adjusted by engineer, checked by projectionist.)
H. Full uniform coverage by each stage speaker system. (Adjustment by engineer during installation.)
I. Uniform coverage by the surround speaker systems as a group. (Adjustment by engineer during installation.)
J. Output of surround speakers correct in relation to stage-speaker output. (Approximate adjustment on installation but needs changing depending on product—checked by service engineer on installation.)
K. Crosstalk between channels low.
L. 96-cps modulation low.
M. Flutter low.

Gain Balance

Reproduce the 1000 cycle 3 channel magnetic loop. Adjust Channel No. One to about 4 db below maximum gain. Adjust all other channels to within ½ db of Channel No. One.

If the stereophonic monitor is not equipped with an amplifier, determine the maximum setting that will not produce excessive unbalance. Turn up the monitor volume control until the level drop ½ db for the respective stage horn. Mark this position of the monitor volume control and the projectionists should not exceed this setting. If insufficient volume is provided at this position, the need for a monitor amplifier is indicated.

Frequency Response

The response should be within the following limits:

0	60	100	200	500	1KC	2KC	3KC	4KC	5KC	6KC	7KC	8KC	10KC
+2.0	+1.5	+1.0	+0.5	+0.3	0.0	0.0	+0.5	+0.7	+1.0	+1.0	+0.5	0.0	0.0
—4.0	—2.0	—1.0	—0.5	0.3	0.0	0.5	—1.0	—2.0	—3.0	—3.7	—4.8	—6.0	—9.0

The spread between channels of the frequency response figures should not exceed the following:

40	60	100	200	500	1KC	2KC	3KC	4KC	5KC	6KC	7KC	8KC	10KC
3.5	3.5	2.0	2.0	0.5	0.0	1.2	1.2	2.0	2.0	2.6	2.6	3.0	4.0

Reproducing heads are subject to variation in both sensitivity and frequency response although in most cases, they will fall within the allowable variations indicated above. If the HF response is low, this may be due to misalignment of the film or misadjustment of the head as to alignment azimuth or canter. In some cases, it may be necessary to equalize channels differently to bring them within the allowable spread.

Noise

The noise level should be read at the system output with the machine running all gain controls the same as that for a normal picture. If possible, obtain the readings between frequency sections of the test films as well as with no film in the machine. Correct the results for the AC VTVM, if used, and subtract from the 1000 cycle reading on the test film. The result is the Signal/Noise ratio, which should be 60 db or more for best performance.

If the noise level is considerably higher when taken from the film, than with no film in the machine, this may be regarded as evidence that the film has deteriorated and a warning that readings which compare with the noise level are meaningless. Increase in film noise would probably indicate magnetized elements in a machine on which the film has been run. Every effort must be made to identify the operating machine and to demagnetize all suspected parts.

NOISE REDUCTION

The "bee" Test film consists of "black and white" CinemaScope film base with the four standard magnetic tracks unrecorded, but scribed transversely with cuts approximately .09 inch apart, extending through the tracks and slightly into the base. This film can be made by taking approximately 15 feet of CinemaScope film and with a sharp, pointed tool, make the scratch marks as described above. No accuracy is required, as this scribing job can be quite "sloppy" and will not affect the value of the test. The film should then be thoroughly demagnetized with the degausser.

Purpose

The passage of a cut over the gap of a pickup head constitutes a variation of the reluctance of the magnetic circuit of the head. If a DC field is present, the flux linking the windings is varied and a signal is produced.

When this test film is run through a magnetic reproducer, noise of the kind alluded to as "bees" will be heard if a field is present at the pickup head. If no field is present, no noise will be heard.

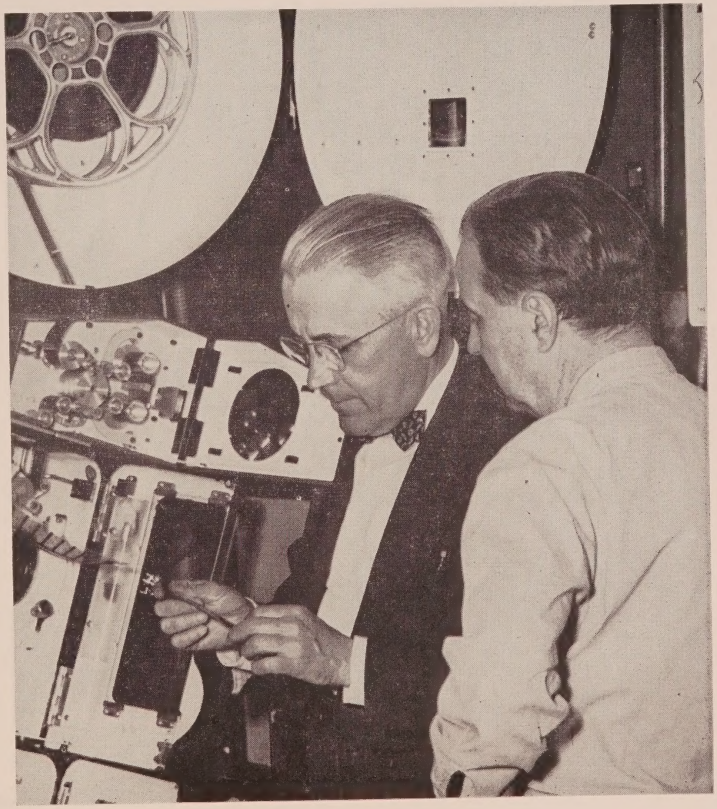
The purpose of the test film is to determine that (1) no parts in the film machine are sufficiently magnetized to damage the recording of a print (by adding noise or erasing the recording), (2) the head or parts intimately associated is not magnetized sufficiently to cause the addition of noise in reproduction, or, (3) the head is sufficiently shielded that fields of external origin will not reach the head in sufficient strength to add noise.

Procedure

Thread the "bee" Test film through the entire normal film path, supporting the top of the loop on the feed-reel spindle, and passing the film through the magnetic reproducer, the projector mechanism (gate closed), the optical sound head and the lower fire rollers. The return side of the loop must be arranged as circumstances dictate, but it must be at least three inches from the picture change-over assembly, motors, or other equipment which might radiate a strong field. The "bee" film should not make actual contact with the feed spindle in the upper magazine but should be removed from it by several layers of tape, a plastic reel hub or other device. With the arc turned on, the loop should be run for several complete passes. Observation should then be made to determine whether "bees" can be heard from the monitor or stage speakers.

Before threading the "bee" test loop, it should be carefully demagnetized by passing it slowly through the large or small demagnetizer coil. This cannot be

A STEREOPHONIC problem concerns magnetization of the sound track. Special rolls of test film (as pictured) are used to determine the presence of magnetic fields in the machine mechanism.



done successfully while the film is running at normal speed.

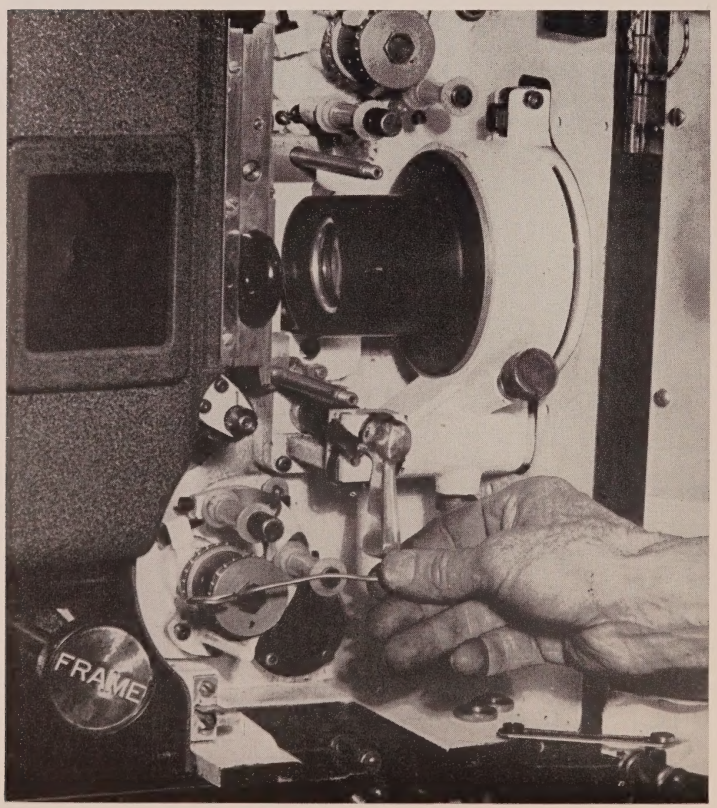
If the test film produces no "bees" or other noise with gain controls at normal settings, we believe it is safe to conclude that release prints will reproduce with no noise other than that which had been "recorded" on the tracks before the film was received by the theatre. If noise is reproduced from the loop, it is due to the presence of a "DC" magnetic field at the scanning point and this may have one of the following origins:

1. Earth's or other magnetic field originating external to the reproducer. Complete shielding of the pickup head corrects this condition.
2. The cores of the pickup head are magnetized. This may be corrected by proper application of the demagnetizer (lamination type). The magnetic compass is not a reliable indicator of such magnetization.
3. Magnetized elements close to the pickup head and within the shield such as the shield itself, mounting screws, connector details, mounting bracket details. Any of the demagnetizers supplied may be effective with these parts and the compass is believed to be a reliable indicator, although it must be kept in mind that a very weak field at the scanning point is sufficient to cause noisy reproduction.
4. The track has become magnetized and carries a field to the scanning point.

The "bee" test film thus indicates that magnetized parts remain in the film path and that the sound tracks of release prints would be irreparably damaged if run through the machine. This condition is identified from 1, 2, and 3 by the fact that the demagnetized loop is quiet during the first pass and becomes noisy immediately thereafter, or several passes later.

Demagnetizing Procedure to Eliminate Noise

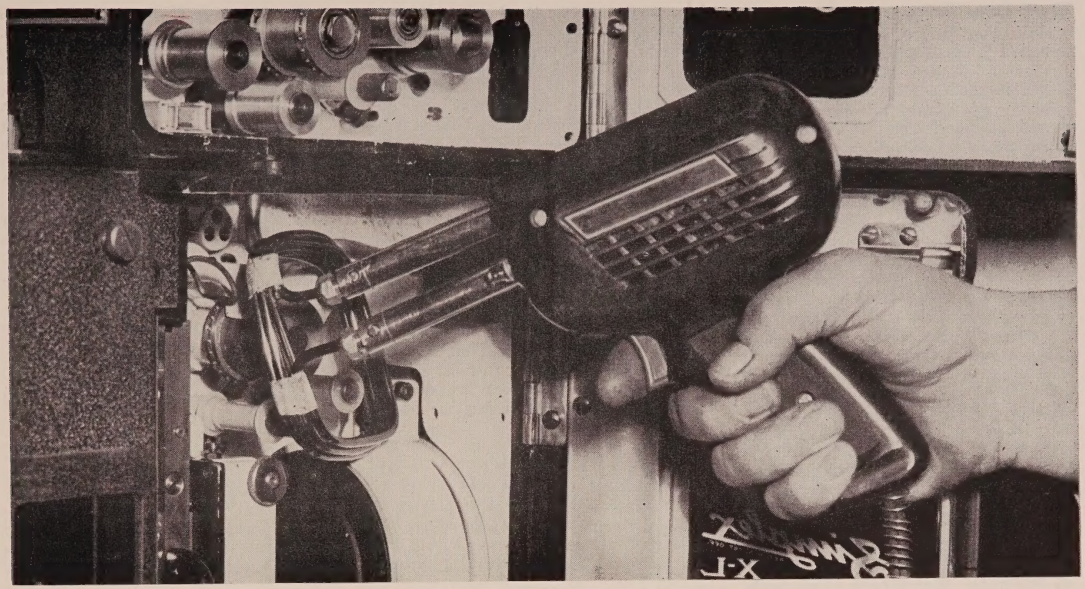
1. At a new installation, do not run a new print on a machine which has not first been demagnetized. This means that the compass reveals no strong fields at any point in the film path and the "bee" film does not become noisy when run on the machine.
2. To demagnetize the parts of a machine, remove at least the gate, and all fire rollers. In addition, certain sprockets may be removed, the film chute (if any) removed, and all film strippers released (removal is unnecessary). The removed parts are demagnetized at the bench and tested with the compass. Special attention must be given to the pressure pads and the shoes of the film gate. All shafts, rollers, sprockets, guides and other members remaining in the machine which contact the film or which mount parts which in turn contact the film, must be demagnetized as indicated by the compass. If clusters of sprockets, rollers and strippers interfere with application of the loop-type demagnetizers, remove details as necessary to gain access.
3. Magnetized parts may be covered by details mounted over them as, for example, a sprocket on a magnetized shaft. The sprocket will appear to be magnetized. In such a case, the sprocket tends to shield the shaft from the demagnetizing field, and much better results are obtained with the sprocket removed.
4. The compass is a very sensitive detector of magnetic fields. To check demounted parts, hold the compass still and move the part about in relation to it; and to check mounted parts explore thoroughly by moving the compass. Changes in the orientation of the needle as the part is moved indicate magnetization. The strength of the field may be judged by the action of the needle.
5. The "bee" test film provides an overall test of a machine whereas the compass is a tester of details. The compass cannot be relied upon for determining whether trouble can be experienced with a machine since some parts are very difficult to reach with this instrument, but the "bee" test film will provide a reliable test in each case. By operating the arcs and passing the loop through the automatic rewind, it should be possible to make a test completely representative.
6. If the "bee" test film becomes noisy, it will be necessary to proceed thoughtfully to locate the troublesome field. If the demagnetized loop passes once through the machine before noise appears, the film is magnetized by parts below the scanning head. The loop may then be demagnetized, rethreaded and marked at significant points along the film path. When the machine is started, the marks may be seen as they pass the head, and the onset of noise may be coordinated with various starting points.



WHEN CHECKING for magnetization a compass is used to establish precise trouble location. This procedure should be handled by an expert.

Phasing of Speaker Systems

Seats in the topmost row of the auditorium are closer to the HF than to the LF speakers and seats in the front row orchestra are closer to the LF than the HF speakers. If sound at the crossover frequency is in phase at the speakers, it will reach these extreme seats out of phase due to the difference of distance. The amount of phase difference may be computed by dividing



AFTER THE EXACT location of the magnetization is located, a degausser gun is used to eliminate the magnetization which creates track noise.

the difference of distance by 2.2 feet (wave length at 500 cps) and multiplying by 360 degrees.

Optimum phasing for the house as a whole normally prevails when the phase differences at the extreme seats are equal but opposite. They will be equal if phasing is perfect at the row of seats on that line, drawn to the midpoint *between LF and HF speakers*, which bisects the angle formed by lines from the midpoint to the top row and to the front row. This bisecting line will be called the "median line."

Phasing may be done by alternately reversing and correcting the connections to the HF speaker, without affecting the LF connections while listening to speech and music, varying the position of the HF horn while doing so. The listening point should be on the median line. When the effect of reversing the connections is most marked, the correct position has been found. The connections should be left in the correct polarity.

Phasing Between Speaker Systems

Connect the commons of the three networks together by means of a jumper. With the same signal on each channel, connect the AC meter between the non-common input terminals of Center and Right networks. If phasing is correct the reading will be considerably below the reading across a single network; if phasing is reversed, the reading will equal or exceed that for a single network. Repeat the observation between Center and Left networks.

The object of this test is normally to determine that the polarity of one channel is not reversed with respect to another. It is not a valid test unless channels are in balance according to meter indication.

Acoustic Balance

The channels must be compared for equivalence of level and frequency response by listening tests. Test film is available for making these tests and may be purchased through the Academy of Motion Pictures SMPTE.

If an aural difference of level or response exists between channels, the speakers should be carefully inspected for interference by draperies or other obstructions, faulty connections, or defective units. Small differences of efficiency may be corrected by readjustment of the channel gain balance adjustments. Substantial differences of sensitivity and differences of response, when due to the units themselves, should be corrected by replacing units, provided the types are such that there is expectation that new units will be balanced in response.

Distribution

Each speaker system should ideally cover the entire seating area uniformly with direct sound. When it is impossible to achieve this objective in houses of extreme proportions, it will be necessary to make sacrifices at the remote sections of the seating area. When positioning the side speaker systems, it is important to recognize that extreme side seats in the rear half of the auditorium are usually considered desirable seats, and it is necessary to cover them with direct sound. It will usually result that the entire side of the house will be covered by the corresponding side speaker system while the front seats at the opposite side may suffer somewhat.

Output of Surround Speakers

The relative level between the surround speakers and the stage speakers should be carefully adjusted to give the desired effect. Too often, in order to show off a new toy, the surround speakers are run at extreme levels which to the audience actually become distracting or annoying. The proper setting will vary between shows and while the studios attempt to record the levels at the proper relation, it has been found that each show should be cued.

Some systems do not have a fader arrangement where it is convenient to adjust the surround speakers independently. If this feature is not available it is recommended that it be installed.

Crosstalk Between Channels Low

Crosstalk between channels should be measured with a film with one channel recorded at a time. Crosstalk is defined as the output of a channel adjacent to and compared with the output of a channel reproducing a recorded track, which is 100 per cent modulated. It should not exceed −40 db at 50 to 1000 cps and −35 db at 8000 cps.

96-cps Modulation Low

Ninety-six cps modulation, the increase or decrease in output of a recorded signal when sprocket perforations pass the scanning point, may be observed on a cathode ray oscilloscope. A reasonable allowable limit is five per cent.

Wow and Flutter in Penthouse Reproducers

Flutter film will presently be available for detecting and measuring flutter. This consists of a constant 3000 cps note and when run on the respective machine, the flutter may be detected by the ear or measured with a flutter bridge made available to service inspectors.

The allowance for flutter should not exceed 0.2 per cent.

Tight Loop Drive

Most magnetic reproducers employ the so-called "tight-loop" or "Davis" drive, similar in principle to the drive employed in the Century Standard soundhead. It consists of one or two solid flywheels supported on free bearings and a pair of rollers joined by a spring and bearing on the film in such directions as to produce tension in the film in its path over the flywheel drums and past the pickup head. When a variation exists in the velocity of the film entering or leaving the reproducer, this mechanical system is called upon to prevent the changes from being transmitted to the scanning point. The film in contact with the flywheel drum offers a very high impedance to variation of velocity; hence if a means is available between the source of speed variation and the flywheel for absorbing the variations, the film speed variation (flutter) will be very low at the drums and, therefore, at the scanning point. In the tight-loop system, low-frequency speed variations are absorbed principally by the compliance of the sprung roller on the side from which the disturbance is introduced (usually the feed reel in the case of penthouse reproducers) and high-frequency variations such as those caused by sprocket teeth are absorbed principally by the compliance of the loops where the film bends around rollers of small radius.

A mechanical system such as described has a tendency to oscillate at a natural frequency determined by the flywheel mass, the stiffness of the springs attached to the sprung rollers and the geometry of the roller arms. Such oscillation would cause the sprung rollers to oscillate upward and downward as a pair, and the means employed to stabilize the system is to introduce viscous friction into the motion of one or both roller arms. It is easy to obtain complete stabilization by introducing friction, but friction unfortunately reduces the ability of the mechanical filter to suppress the transmission of speed variations to the scanning point for all rates of variation except the natural frequency; hence, damping is introduced sparingly when these machines are designed. A completely undamped system will oscillate or WOW continuously while operating. A slightly damped system will WOW a few times whenever a disturbance occurs, such as a patch or a sudden pull from the feed reel. A highly damped system will return slowly and gradually to the normal running point following a disturbance. In the "critically damped" case the system returns *promptly* to the normal running point after a disturbance but does not overshoot. These responses may be observed from the behavior of the sprung rollers when disturbances are deliberately introduced by touching the finger against the moving film.

Damping

The several manufacturers of penthouse reproducers do not employ precisely the same degree of damping, but it is probably safe to say that all will fall between the condition of critical damping and half critical damping. The latter condition is indicated when the sprung rollers overshoot somewhat on the return after a disturbance, but then return to the running position without a second overshoot.

The mechanism by which damping is accomplished also varies in detail, but not in principle. The several forms of damper include the oil dash-pot, a rotary element in which viscous fluid fills the spaces between surfaces which rotate with respect to each other, and a similar design incorporated in the bearings which carry the sprung-roller arms. The fluid in all cases is Dow-Corning silicone fluid, but the viscosity employed varies with the equipment design.

The friction drag of the tracks over the pickup head would tend to cause the lower loop to shorten and the rollers to take their lowest possible position. The weight of the rollers tends in the same direction. These tendencies are balanced by a so-called "ground" spring which is provided with adjustment means for maintaining the rollers at a running point such that they are free to move approximately equal distances upward and downward. The adjustment of the tension in the ground spring does not exert a critical effect on the stability of the reproducer so long as the roller arms do not strike the limit of their travel. If they do strike a limit, WOWS will almost certainly be audible.

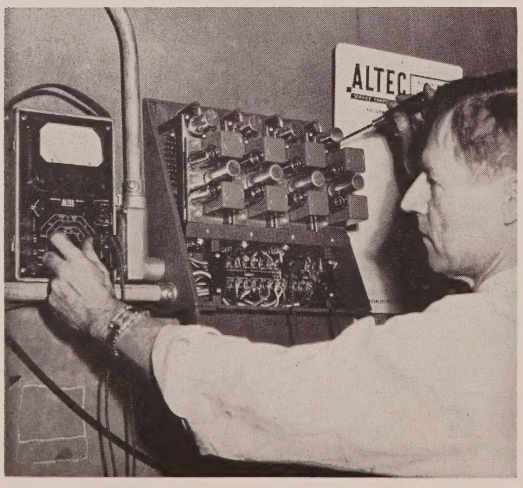
Causes of WOWS in Penthouse Reproducers

1. Non-uniform action of the tensioning device in the upper magazine. This difficulty was corrected on Westrex magnetic reproducers by installing the AP-2897 hold back kit which consisted of a W-5 shaft and other parts necessary to clamp around the 1-5/16 inch diameter hub of the Wolk upper magazine casting. We understand that the Motiograph A-A upper magazine hold back device is designed for this type of duty also. We would expect that feed tensioning that proved satisfactory with 5000-foot reels would perform acceptably for penthouse reproducers, but this has not been verified definitely.

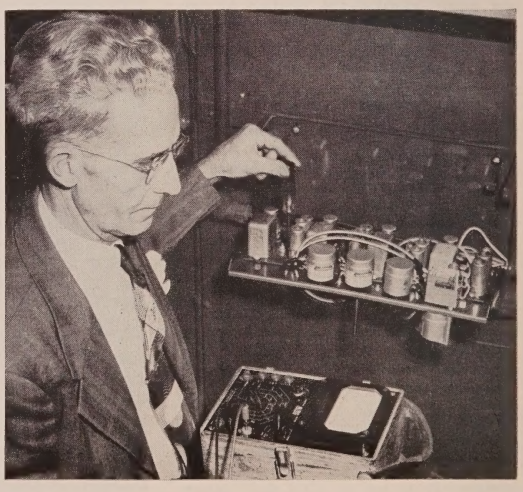
2. Bent reels rubbing against film or upper magazine to cause irregular motion and irregular tensioning of the film.

3. Insufficient tension on the film as it is pulled off the feed reel, with the result that the reel overrides, and then stops until the slack is taken up.

4. Quoting from a report: "Alignment of the magazine, penthouse and projector mechanism is very important. It has been found that the best way to align the three units is to remove the sprocket from the penthouse, thread film through the projector and run it. Then, with film going through, line up the



AFTER LISTENING to the sound track the field engineer makes adjustments at the preamplifier to balance sound levels of magnetic tracks 1, 2, and 3.



This procedure affects loudness of the stage speakers in relation to each other thus assuring sameness of volume as sound moves across the screen.

several units so that the film passes from one unit to the other on the same plane. This having been accomplished, the sprocket is re-installed and the film passes through the penthouse quietly and without straining the sides of the sprocket holes. It was then found that minimum WOW was present only when just enough tension was applied to the spindle in the upper magazine to provide for even feeding of the film from a reel which was not warped."

This procedure produced good results so it is repeated here. However, if the sprocket is removed before alignment, it may be found that the film is misaligned when the sprocket is in place. Whatever the procedure, the requirements for alignment are (1) the center line or edge of the film must be in one plane throughout its path, and (2) all spindles, rollers, sprockets and drums must have parallel shafts.

5. Foreign particles in the bearings of flywheels, rollers, roller arms or sprocket. All bearings should be free except one or both roller arm bearings which are deliberately impeded. The degree of freedom, however, is not important so long as action is smooth.

6. The ground spring must be so adjusted that the rollers normally ride at the center of their range of movement: — More particularly, the arms must not strike a limit in ordinary operation. It is normal for the arms to move somewhat while the film is running, but each motion has a definite cause. Since the motions are fairly slow, much can be learned by watching them and relating them to possible causes when WOWS are experienced.

7. The damping device may not be effective due to loss of damping fluid, a loose linkage between arm and damping device which allows lost motion, or other cause. If the springs are removed from the arms, the resistance to motion may be felt readily. This resistance must be effective for small displacements as well as large. The resistance may normally be applied by design to one or both arms.

8. Eccentricity in projector upper feed sprocket.

In general, the stereo amplifying system is no different than that for the optical. Since there is practically no difference, procedures for servicing will be the same. In view of the fact that there is about four times the amount of equipment, the occurrence of irregularities may be expected to be in the same proportion. However, there will be irregularities peculiar to stereo and magnetic recording that will require certain vigilance by the projectionist that will be new to him. The regular sound service inspector will always be glad to show the projectionist the daily routine that should be taken, emergency expedient in case of failure and how to determine whether or not the quality of sound is normal.

Equipment for Projectionist

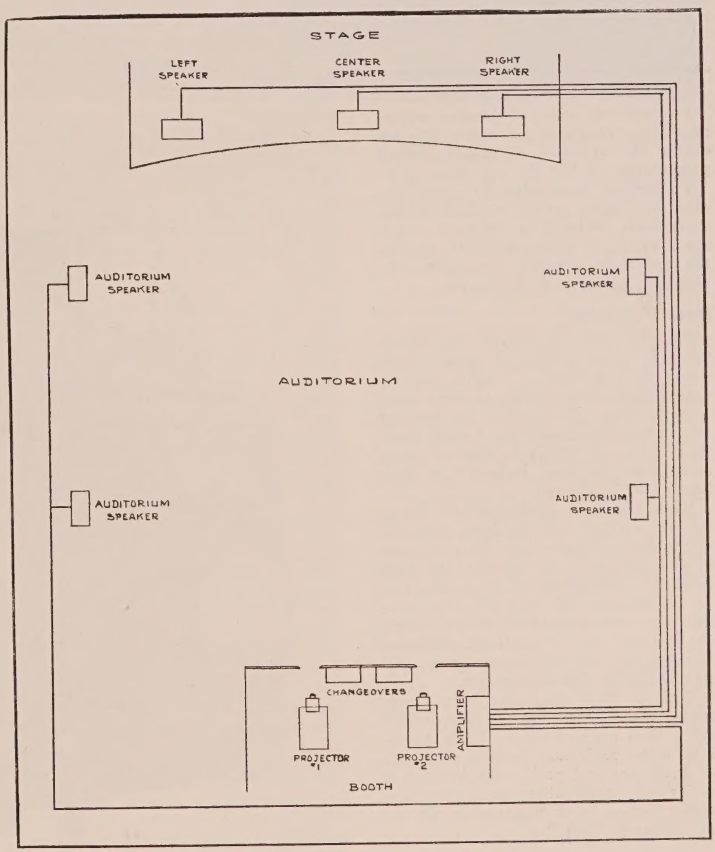
The projectionist should have in the booth the following equipment to make daily observations:

1. Demagnetizing (Degausser) Kit. Periodically the equipment should be checked for magnetism. It is difficult to tell how often this should be done, as it will vary among booths, depending upon stray magnetic fields that exist in the respective booth. It is a good idea for the projectionist to first check every day and after making observations for several days, it can be determined whether or not it will be necessary to degauss once after each reel, once a day, once a week or once a month. The service inspector will gladly work with the projectionist to determine the procedure for detecting magnetization as previously outlined.

2. A 1000 cycle four track magnetic test loop. The 1000 cycle test loop should be used to determine whether or not there is an unbalance in volume between channels. Normally the engineer would use a volume indicator in conjunction with this adjustment, but the ear will suffice in case it is reported that there seems to be an unbalance. By using the loop, the projectionist can quickly determine if it is in the print or in the amplifiers and therefore can make acceptable adjustments that will be satisfactory until the service engineer can make his routine inspection.

Since there are three (if there are surround speakers, it would be four) horn systems, noise and hum may become more noticeable than that experienced on optical. Voice and musical reproduction may jump from one horn to another but the noise or hum from the respective channels will remain constant for the respective horns and is not inclined to be masked out by the speech or music being reproduced, but the right horn, emitting the same amount of hum may appear to be quite prominent due to the fact that there is no reproduction from this horn to mask the "hum."

Since low noise levels are even more important for good stereo reproduction it is a good idea for the projectionist to give this a daily check. This is done by turning the system on, placing the faders on normal setting and taking a walk across the auditorium to observe the noise levels from each horn system. If there are excessive levels and they can not be eliminated by normal method available to the projectionist, he may then call the service engineer.



THIS DIAGRAM, which was prepared by the Altec Service Corporation, shows a typical stereophonic sound installation. Indicated are the positions of the stage, auditorium and booth equipment, and the relation of the wiring from amplifier to speakers. System must be cared for to obtain proper results.

The Improved Strong Arc Lamp

A Description of the Automatic Arc Crater Positioning System and Other Improved Features in the Strong Super 135 Arc Lamp

BRIEF: *The number of new and improved systems for the showing of wide screen film offerings in the motion picture theatres of the world . . . continue to increase at a rapid pace . . . With this increase in the methods of film presentation . . . it is only natural that the demand for light on the screen also increases . . . In order to keep up with these ever greater demands for more brilliance . . . it is the job of the projection arc lamp manufacturers to either design new units . . . or constantly revamp existing models . . . This article describes the many new and improved features that have been recently incorporated into the Strong Super 135 arc lamp . . . The author . . . who was directly responsible for many of the changes to be found . . . describes the new features in detail . . . with particular emphasis on the new automatic arc crater positioning system.*

By Arthur J. Hatch
Vice-President in Charge of Engineering
Strong Electric Corp.

Probably no item of theatre equipment has undergone as many changes during the evolution of modern screen presentation as has the arc lamp.

Challenged constantly to meet the ever increasing projection lighting requirements dictated by screens which seem never to reach maturity in size the arc lamp designer has been ever plagued by that old devil—*heat!*

Heat Problem

Just as there is usually fire where there is smoke, there is usually heat where there is light . . . and it must be remembered that motion pictures were truly in their infancy when the demand for more light meant the forced adoption of the arc light—the brightest man made light—a light exceeded in brilliancy only by the sun.

Since the first projection arc lamp, the old vertical arc, we have seen the low intensity reflector arc, the perfection of the automatic arc control, the high intensity condenser-type lamp, the Hy-Lo (65 ampere high intensity arc), portable arcs which replaced Mazda lamps, the AC arc, the Suprex lamp, the one-kilowatt arc, the 90 ampere lamp, and now the Super 135 ampere arc.

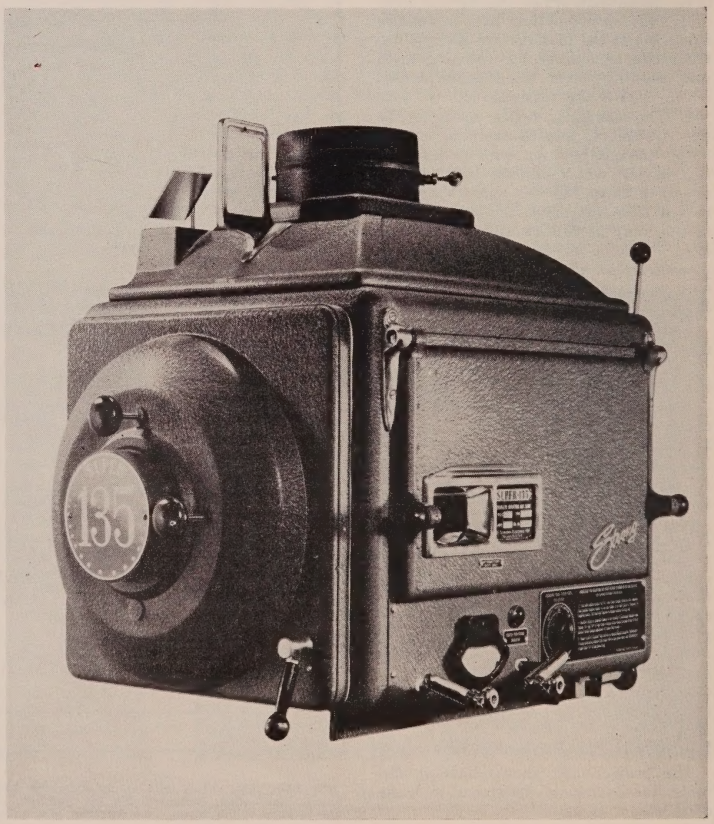
Each of these projection arcs represented a distinctive type of lamp which for a time represented the latest thinking of the projection lighting engineers of their era and each went through a series of modifications and improvements before being replaced by an arc of a different "type."

Design Improvements

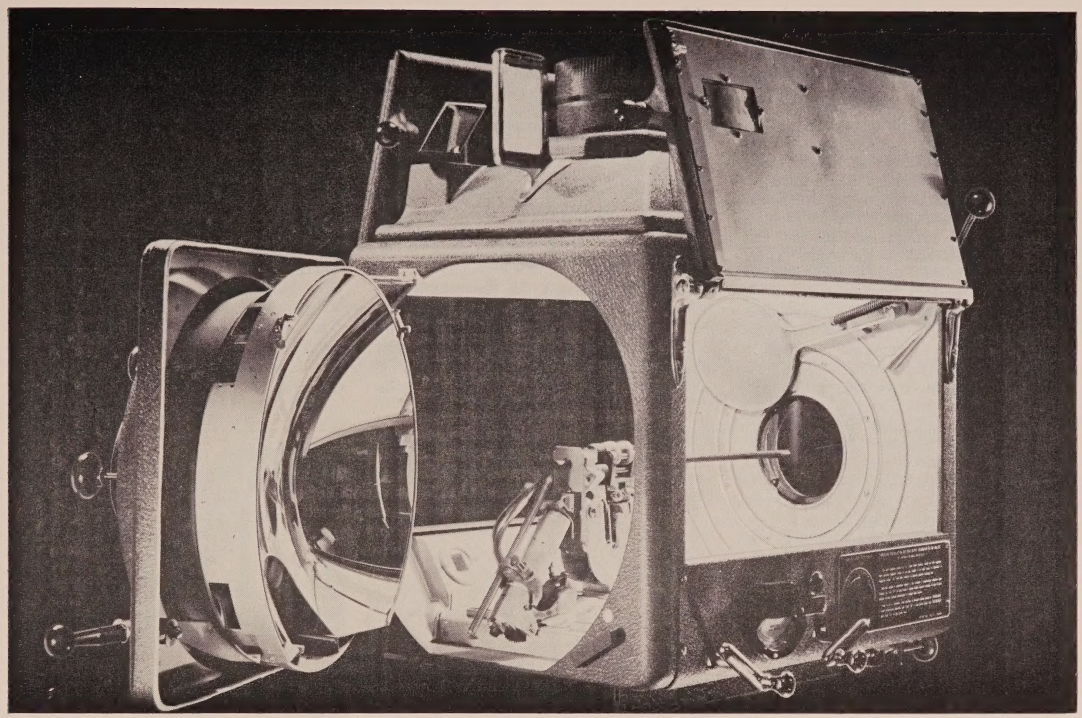
An example of how often and how many improvements are forthcoming on a single lamp is afforded in the case of the present Strong Super 135 projection arc which was first announced in the summer of 1953. Since the first model of this highly popular lamp came off the production line there have been incorporated no less than seven improvements, all of which have added immeasurably to the lamp's performance as well as keeping it abreast of the new set of presentation techniques which have been developed recently.

Many New Features

These new features include the Infra Ban Beam Cooler which diverts heat rays from the aperture; a new built-in flexibility of operation that permitted the burning of a choice of four carbon trims to attain any desired degree of cost of operation, screen illumination, or burning time. Quick, simple changes produced the correct light requirements for VistaVision, CinemaScope, Cinerama, or any other presentation technique — even two or more on the same program. A removable holder for the Infra-Ban Beam Cooler was added to facilitate easy cleaning. Then a separate blower for cooling the filter was built in. Another cooling device, that for the reflector and reflector frame followed. Upon its heels came a new, long-life positive carbon contact. There was then made available a choice of 18 inch f/1.7 or 16½ inch f/1.9 reflectors. (The original models were all 16½ inch). A water-cooler carbon contact assembly followed the enlarged mirror.



THE ARC LAMP represents one of the most worked upon and constantly improving pieces of projection equipment in order to meet need.



AN INTERIOR view of the latest model Strong projection arc lamp. It has incorporated a number of new features for better performance.

Thus it is obvious that progress continues unabated and that no one should ever wait for the lamp of tomorrow for there will always be another one around the corner. It is also quite evident that theatremen cannot for long remain completely satisfied with the lamps they buy, for there will undoubtedly be many improvements effected since their purchase.

Outstanding Advantages

Nevertheless with the introduction of the Super 135 there were afforded a number of basic features, some exclusive with Strong, which remain outstanding advantages, just as some of the better feaures of each succeeding "type" of lamp have been retained throughout the years. To understand how some of these advancements came into being and why they are retained it is necessary to keep in mind the fact other associated equipment too is subject to changes. Typical of these outstanding features and incidentally exclusive with Strong lamps, is the automatic arc crater positioning system.

Automatic Arc Crater Positioning System

Constant enlargement in screen sizes during the past decade, and particularly during the last year or so, has necessitated a progressive ascent in the amount of light necessary to pleasing projection. To help in attaining this added brilliance a corresponding succession of increases in the burning rate of the positive carbon, as well as faster optical systems, have been necessary.

As compared to a burning rate of about four inches an hour in the old low intensity lamps, arcs today burn from 18 to 30 or more inches of positive an hour.

A variation in the burning rate of as little as six per cent to eight per cent can in 20 minutes change the position of the positive crater in relation to the lamphouse optical system as much as one-quarter inch. Less than 1/32 inch is the maximum error that can be tolerated without unavoidably resulting in loss of illumination and change in color of the light on the screen to either blue or brown.

Eliminates Hand Feeding

Without this automatic arc crater positioning system the projectionist must devote a good portion of his time to hand feeding and correction of the carbon crater position during projection if perfect screen lighting is to be had. Being forced to divide his attention not only to the burning arc but also to reel sequence, threading sound, rewind bench, operation of curtain controls, picture focus and many other details it is accordingly too much to expect him to confine his attention to the matter of carbon crater position. Picture presentation simply must suffer.

The Strong Automatic Arc crater positioning system controls the burning of both carbons, maintaining a steady light of constant color temperature—exactly the same for both lamps—so that changeovers need never be noticed.

The awareness on the part of exhibitors and projectionists of the importance of correct color temperature and constant color temperature of the light on the screen was greatly increased with the introduction of Cinerama. To maintain absolute constant color temperature and equally brilliant light sources for the three projectors at all times so as to maintain the illusion of one continuous picture across the screen would be impossible without an automatic crater positioning system. Current adjustment is by a single control and parts of the system, including the contractors, relays, resistors, motors and optical elements are easily interchangeable.

The system is not sensitive to the diameter of the carbon, the brightness of the burning arc, nor to the current intensity being fed to the arc, but only to the position of the gas ball in relation to the optical system.

Controls Positive and Negative Carbon

Due to the fact that in a normal burning arc the position of the positive carbon crater in reference to the negative is determined by factors of voltage and current and arc gap resistance, to successfully control the position of the positive crater and maintain a stable burning arc it is also necessary to control the position of the negative carbon electrodes in coordination and in conjunction with the positive. For this reason the system controls both the positive and the negative carbon and the position

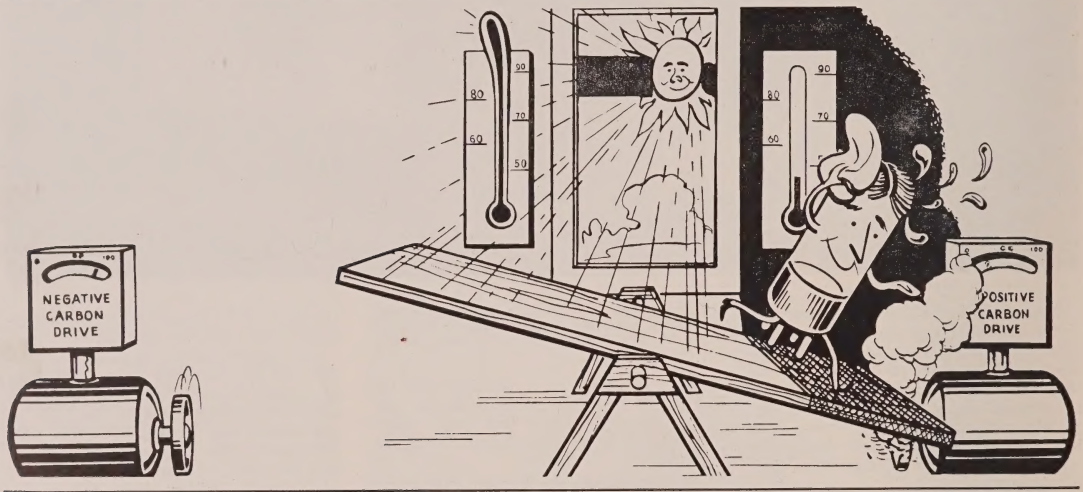
of the negative carbon is so held that the arc burns in a stable manner when the positive is held in its prescribed position in regard to the optical system.

Component Parts

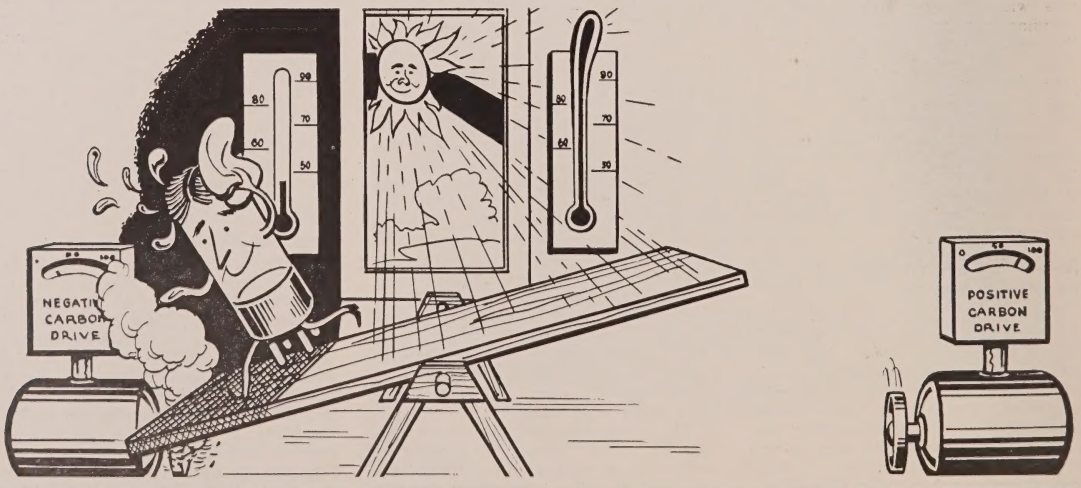
The components that make up the carbon regulating and feeding systems are simple, and include a hermetically sealed double compensated bimetallic element which is sensitive to the small amount of radiant energy taken from a portion of the carbon arc in the arc stream and adjacent to the crater face. The optical system which concentrates this energy on the bimetal tube is a single element, in that the condenser is ground on one face of the prism. The bimetallic switch is arranged so that it directly controls the motor field of the positive and negative motors which are connected to feed their respective carbons. This control relay shunts out the resistance in one field of one feed motor when at the same time it is releasing this shunt resistor from the control field of the other feed motor. Thereby one motor is slowed down and the other speeded up to maintain a constant arc gap length and still meet the requirements for adjusting the positive carbon either in one direction or the other to maintain it at the correct focal point.

Bimetal Tube's Function

A simple analogy of the manner in which the bimetal tube functions may be gathered from two illustrations. The carbon arc is depicted akin to the sun shining through the window and falling upon the right hand portion of the teeter-totter arrangement. This portion becomes warm, as evidenced by the "thermometer." The control element, as shown by the man resembling a bimetallic tube, immediately moves to the shaded portion of the saw horse causing it to engage the negative carbon drive motor and slow it down. At the same time the positive carbon motor is released so that it will speed up. This coordinated action has its effect upon the feed of the carbons. The positive carbon is fed slightly faster than it is burning and the negative carbon slowed down so that it recedes slightly, thereby shifting the position of the light source. This causes the bimetal tube "man" to again feel uncomfortable and to run to the other side of the see-saw. Thereby the positive carbon drive is slowed down



THESE TWO illustrations attempt to explain the manner in which the bimetal tube that helps to make up the carbon regulating and feeding systems. The carbon arc (the sun) shines on right side of teeter board which becomes warm. The control element (the man) immediately moves to the shaded portion causing it to engage the negative carbon drive at the same time positive drive motor is released so it will speed up. This controls carbon feed.



and the negative carbon drive released. This action of running back and forth analogizes the operation of the tube in the lamphouse which is never in an inoperative position. It is constantly sensing slight variations in the position of the positive carbon and shifting the arc ever so slightly one way or the other so that it remains in exact focal relationship with the reflector. This slight shifting is so minute and so continuous that it cannot be detected either by the operator in watching the lamphouse closely or by those watching the screen. In fact the total movement of the positive carbon from the exact focal point of the reflector usually does not vary more than plus or minus six to eight thousandths of an inch.

Another illustration shows the wiring diagram, giving the arrangement of the bimetallic tube as it is actually incorporated in the control system of the lamphouse. As will be noted the control relay is arranged so that it will shunt out either one of the two resistors that are in series with the fields of the feed motors. Thereby the negative is slowed down and the positive speeded up, or vice versa, in the same manner that the bimetal tube in our cartoon controls the motors in response to the position of the source of energy.

Stability Demonstrated

The stability of the Strong control system is easily demonstrated. The arc can be struck, the position of the positive crater deliberately thrown off its intended position to such an extent that there will be no light on the screen, the negative carbon positioned so that there is either an extremely short or long carbon arc gap length, and without further attention, both carbons in several minutes will automatically return to the correct arc gap length, and the relation of the positive carbon to the optical system will be returned to its optimum position. The light on the screen will be at its maximum and most uniform brilliancy.

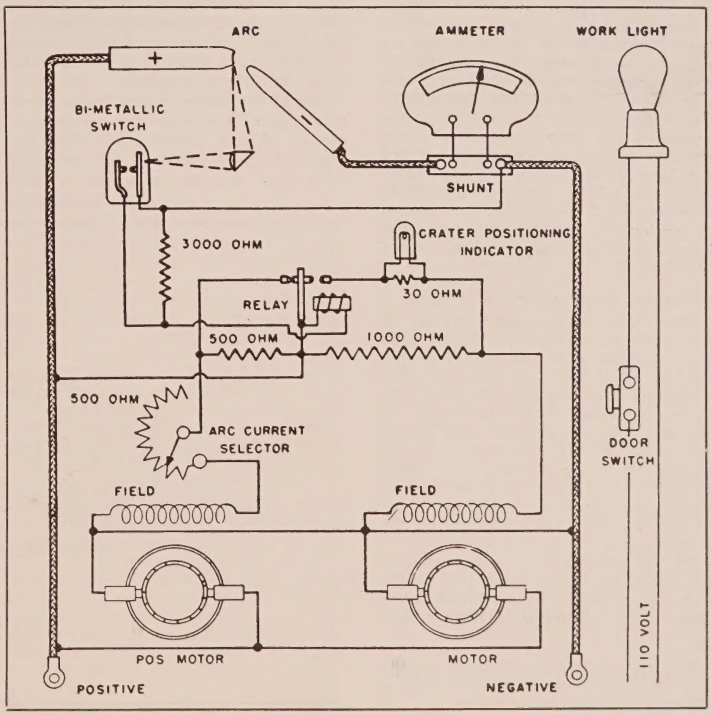
The length of the arc gap is governed primarily by arc voltage. This electrical "pressure" between the carbons is a resultant of the power that is fed to the arc, and consequently the distance between the carbons should be properly regulated by the output of the generator or rectifier. In the case of the rectifier the output is simply regulated by changing taps and in the case of the generator the power output is regulated by changing the ballast resistance in the arc power supply circuits between the generator and the lamp. As the power to the arc is increased, nothing else having been disturbed, the length of the arc gap length will gradually increase. If the power to the arc is decreased the length of the arc gap will gradually decrease. Such a change of input power will not cause a change of arc amperage beyond the initial surge at the instant of change. If the lamp is allowed to burn at either increased or decreased power until stability is reached, nothing else having been disturbed, the arc amperage or current will finally settle to the same value as before the change of input power to the lamp was made.

Two Related Factors

The amperage at which the lamp will operate and the rate at which the carbons are being fed are two factors which are closely related. The higher the rate of feed that is selected, the higher the arc current will be. The setting of the feed control of this automatic lamp will simply result in a feeding of the carbons at a certain average rate. This rate of feeding together of the carbons causes the arc current to be established at a value so as to effect a balance between the rate at which the carbons are being fed and the rate at which the carbons are being burned. If the rate of feed is speeded up the carbons will consequently have to be burned off at a faster rate. In the adjustment of the lamp, the motor or carbon feed rate controls are adjusted simply to attain the desired burning rate or arc amperage and the power supply is adjusted only to obtain the desired arc gap length. If the arc gap is too long, decrease the power supply by lowering the rectifier output. If a generator or commercial D.C. is in use increase the line ballast by pulling out the switches or disconnecting links so as to increase the voltage drop across the ballast. If the arc gap is too short increase the power supply by raising the rectifier output. If generator or commercial D.C. is in use decrease the line ballast by throwing in additional switches or connecting additional links so as to decrease the voltage drop across the ballast.

After the correct arc setting is thus obtained as determined by the arc gap length no further adjustment of the power supply to this automatic lamp will be necessary unless indicated as follows: When the crater positioning indicator light (located on the control panel just above and to the right of the positive manual carbon feed crank) is "on" it indicates that the positive carbon is being fed at a faster rate than was selected. When this light flashes "off" it indicates that the positive carbon is being fed at a slower rate than was selected. If the crater positioning indicator light remains "off" for long periods, or if the arc gap becomes too short, or the carbons "overfeed," the power to the arc is too low for the burning rate selected and the power supply must be increased. Conversely, if the crater positioning indicator light remains "on" for long periods of time, or if the arc gap becomes too long, or the carbons "underfeed," the power supply to the arc is too high for the burning rate selected and the power must be decreased.

Thus it seems that in this Strong Super 135 projection lamp, the utmost has been done to provide automatic means for maintenance of crater position, to simplify control, and to provide visible indicating means to the projectionist regarding the remaining variables so that the nearest thing akin to perfect projection is attained.



THIS DIAGRAM shows the wiring arrangement of the bimetallic tube as it is actually incorporated in the control system of the lamphouse.

Ambient Light for Projectors

Technical Explanation of the Design Factors and Component Parts of the New Light Collecting Speed Anastigmat Projection Lenses

By JOHN R. MILES*
President, John R. Miles Company

BRIEF: *This article will give the reader a sound review of the basic principles of motion picture projection optical systems . . . and projection lenses . . . There are descriptions of the two basic types of optical systems . . . discussing the advantages and disadvantages of each . . . explanations of stops for optical systems . . . and how to determine the speed of a lens . . . After giving the details of optical systems . . . the author . . . who heads a leading firm of optical consultants . . . goes into a discussion of modern projection lenses . . . which should prove to be of genuine interest to exhibitors and projectionists who wish to become more familiar with the fundamentals of projection optics . . . The final portion of this article is devoted to an analysis and description of a new series of projection lenses which are said to have a greater light collecting ability than most lenses now in use . . . As has always been the policy of THEATRE CATALOG we present the facts and leave it up to the reader to decide upon the merits and value of the information.*

Projector illumination is produced by one of two basic types of optical systems, the first being the True, or Classical Condenser System, and the second, a Source Imaging System. Motion picture illumination is not produced by classical condensers, but rather by source-imaging systems, which have specific characteristics limiting the light on the screen edge. Some of these characteristics are often produced by using short focus lenses with a mirror designed for long focus lenses. This produces difficulties which are not completely overcome by faster lenses. Tube spaces in projectors, meant for long focus lenses, also frequently produce uneven illumination.

Classical Condenser

The classical condenser system is shown diagrammatically on Figure 1. In this case, the source is imaged by the condenser lens on to the objective lens, which, in turn, images the film close to the condenser on to the screen. In this way, the objective lens also images the surface of the condenser on to the screen, or nearly so, and this device produces almost perfect uniformity of illumination across the screen, regardless of the variation in brightness of the source across the face of the source.

In the example shown on Figure 1, the condenser is the same size as the film, and the same size as the objective lens, while the source is smaller than either. In this particular case it would appear that the speed of the condenser must be equal to the speed of the objective lens, but usually this requirement does not exist, as such, and other considerations control the size and speed of the condenser lens. In the case of this classical condenser system, the condenser does not increase the illumination on the center of the screen in any way, but simply brings the light bundles from the edge of the field around to pass through the objective lens.

The size of the condenser must be at least as large as the film aperture, and, usually, it is considerably larger in this type of system because it is placed at a slight distance from the film aperture. In many cases the speed of the condenser must be as much as two or three times the speed of the objective lens. (Speed is defined as focal length of a lens divided by its diameter or free aperture). Thus, a lens of three inch focal length with a one inch diameter has a speed of f:3. The magnification of the condenser is arranged so that the image of the source is equal in size to the aperture of the objective lens, and this image of the source must be formed in the objective lens stop to produce the even illumination required.

One of the several difficulties in using this type of condenser for professional motion picture projection is that the condenser is too close to the source in most cases, and, in case an arc is used, the spattering from the arc damages the condenser too quickly.

Another difficulty is that the condenser must be of a very high speed in order to obtain illumination on the edge of the field.

A compromise of the true condenser is sometimes used in small movie projectors for 16 mm and 8 mm film, in which case the source is imaged between the objective lens and the film, while the condenser is closer to the source.

Source Imaging Systems

In the source imaging system the source itself is imaged or projected on to the screen, or other area to be illuminated. A simple example of this type of system is the military searchlight, where the crater of the arc is imaged at a very great distance. Since the searchlight mirror is rather long focal length, and the crater quite small, the beam is rather narrow and very intense. The professional motion picture projector for 35 mm film uses a source imaging system, where the mirror (or condenser lens) images the source at the film gate, and the projection lens re-images this source, and the film gate, on to the screen. This system is convenient because the arc, which is usually used, has a fairly even brightness, and this method keeps the source at a considerable distance from the mirror and produces the proper magnification of source image without too much difficulty.

In the event the classical condenser system is used for a six inch f:2 lens, the magnification of the condenser would have to be three times as great and the mirror considerably larger in order

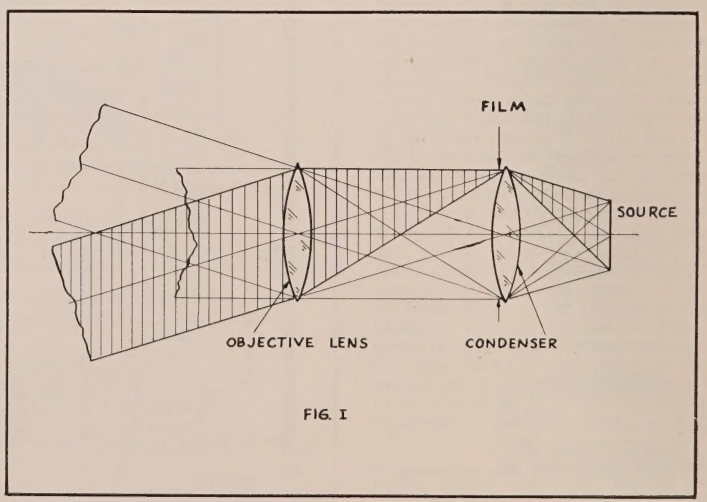


FIG. I

*This article is based upon the paper, "Ambient Light For Motion Picture Projectors" delivered by Mr. Miles at the April, 1955 convention of the Society of Motion Picture and Television Engineers.

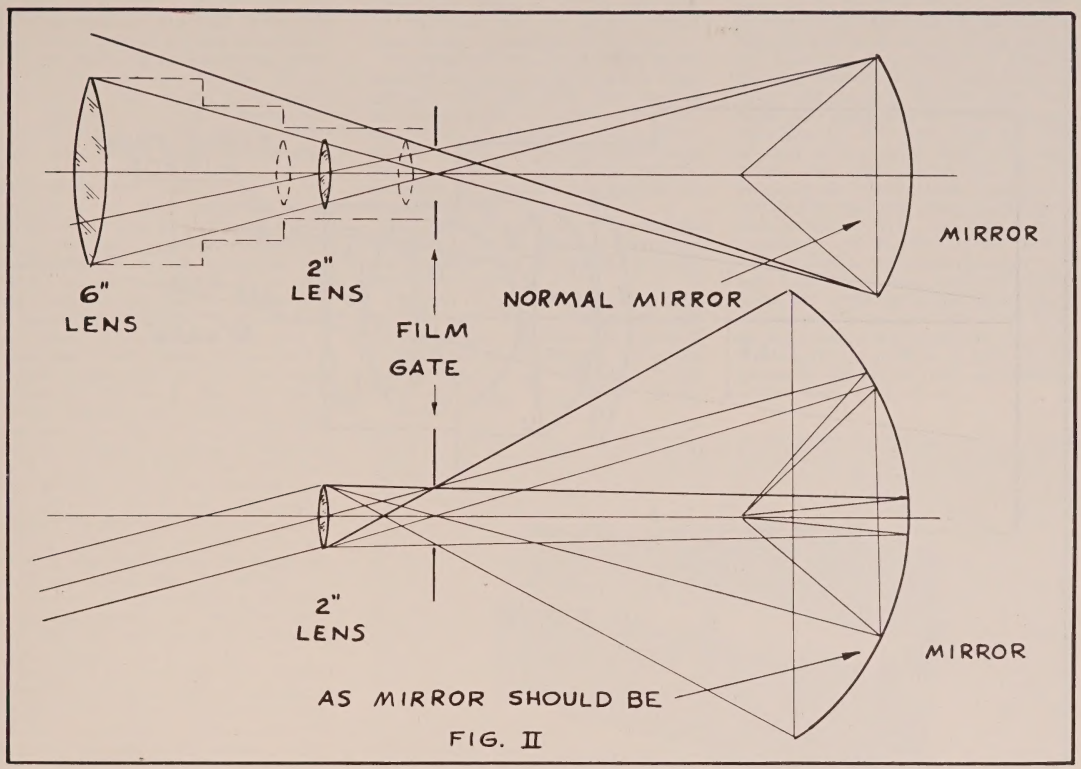


FIG. II

to equal the performance in the center of the field as the mirrors are now used.

Standard Projector

The upper portion of Figure 2 shows a normal mirror from a professional motion picture projector, together with an example of a six inch lens and a two inch lens used in this projector shown. Magnification of the mirror must be such as to image the evenly bright portion of the crater of the arc over an area slightly larger than the rectangle of the film gate. In this way, some light is spilled around the rectangular opening of the gate.

It will be noticed on the upper portion of Figure 2 that the speed of the mirror is about the same as the speed of the lens. In fact, if the lens is any faster than the mirror it will not increase the illumination on the center of the field, although the mirror being faster will help the illumination on the edge of the field in the case of the shorter focal length lenses.

The tube opening in the projector is usually made of such a size that the lens can be made only of certain form and a certain diameter, and in most cases cannot pick up all of the light from the mirror. This normal mirror is actually much too small to function properly with shorter focal length lenses. It is, however, sufficiently large to function with some degree of success on longer focal length f:2 lenses around six inches in focal length. In this case, a great deal of the light from the edge of the film gate coming from the edges of the mirror can go into the lens (actually about two-thirds). In the case of the two inch lens, as can be seen in the upper portion of Figure 2, only half of this light can be picked up with an f:2 lens. In fact, neither lens could be made sufficiently large to pick up all this light coming from the edge of the mirror.

"Matched" Mirrors

It has been said by some writers that the mirror should be "matched" to the lens, that is, to have the same speed. This is, however, a misconception, and actually assures performance of the lens only for the center of the aperture plate. If the lens is to function properly, the mirror should be much larger to provide the light for the lens. In other words, the requirement is for the mirror to furnish light for the lens, and not for the lens to pick up the light coming from the mirror no matter where it goes.

The lower portion of Figure 2 shows a properly designed mirror for functioning with a two inch f:2 lens. It will be noted that the speed of the mirror is approximately f:1.

It may not be practical to make mirrors of this diameter, but it is rather incorrect to blame the lens for fall-off in illumination when, actually, it is the mirror which is too small, particularly for short focal length lenses. It is sometimes stated that with the normal mirror the light from the mirror falls off on to the edge of the tube, and is lost. But, actually, it is more correct to think of the fact that the light which goes above and below, and to the right and left of the mirror out against the side of the lamphouse is lost, since this light, by simple optical principles, should be picked up by the mirror and directed towards the lens.

Stops for Optical Systems

All optical systems have a stop or aperture ring through which all the bundles of light from the center of the field, as well as all other parts of the field, must pass. The simple, inexpensive camera lens, for example, has this stop in front or behind the simple lens, and this means is used for correcting some of the aberrations.

However, good photographic lenses, such as the Cooke Triplet, the Sonnar, the Biotar, etc., have an internal stop, and this stop is used in their design when the aberrations are corrected through very elaborate computations. Practically all projection lenses are adaptations of photographic objectives, and are designed with internal stops, and such stops are located inside the lenses (between the elements). With a normal mirror, as shown in the upper portion of Figure 2, an artificial condition is produced in which the stop of the optical system is placed back at the edge of the mirror, and then this edge of the mirror is imaged in front of the projection lens, usually about two inches in front, and the bundles of rays through the lens do not meet the requirements

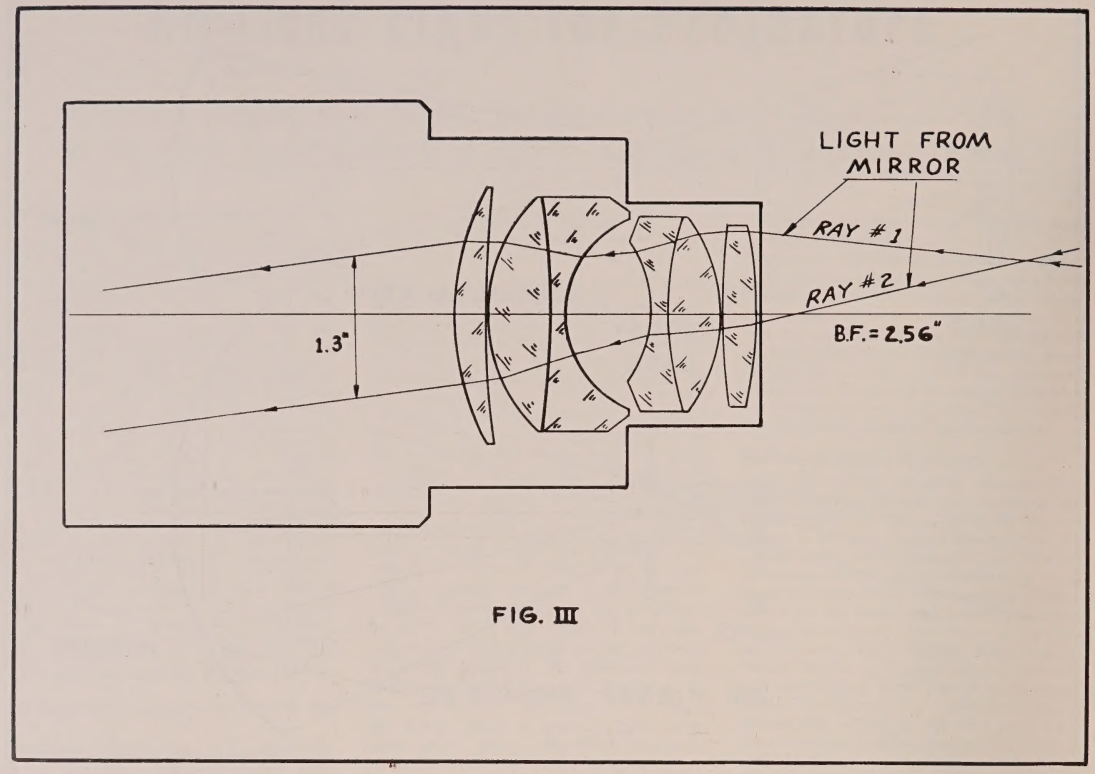


FIG. III

of the designer, and serious vignetting is produced by artificially locating the stop in this manner. This also increases the aberrations of the lens, and harms the image quality.

The large mirror shown in the lower part of Figure 2 would allow the projection lens to function in the manner in which it was designed, and the vignetting would be cut to a minimum.

Some Difficulties

There are, however, difficulties which might be produced by the very large mirror shown in the lower portion of Figure 2. One difficulty would be too much heat on the film, but this could be overcome by decreasing the current in the arc, and obtain even illumination rather than a bright spot in the center of the screen. Another difficulty is the excessive size of the lamphouse.

One method of overcoming excessive heat would be to use the new interference filter type of light deflector, in which case most of the heat can be thrown aside with only about a 10 per cent loss of light. In this way, the light could be increased on the edge of the screen by as much as 20 per cent or 30 per cent.

Modern Projection Lenses

Figure 3 shows the double Gauss type of projection lens which is used by some of the leading optical companies to obtain a fast lens up to f:1.8 or even f:1.5 in an attempt to compensate for the faulty design of the lamphouse. Usually, these lenses decrease the light in the center of the field by having eight (8) air-glass surfaces, but they do increase the light on the edge of the field by their high relative aperture. These lenses are Anastigmats, that is, they are corrected for astigmatism, and have a relatively flat field. The back focal length in these lenses, however, is quite great, and consequently, the back lens of the system is placed at a considrable distance from the film gate so that this light coming from the edge of the mirror is spilled on to the tube of the projector. Actual measurements and calculations show that the two inch central beam is cut down to 1.3 inches for the edge of the field on this six-element double Gauss, as shown on Figure 3. An Anastigmat lens

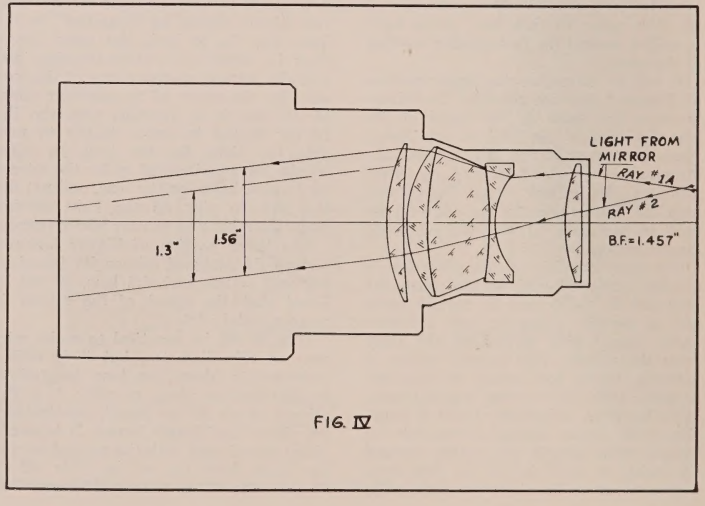


FIG. IV

of this speed with a strong rear lens of large diameter, and close to the film gate, would produce a better compromise and give more light, both in the center of the field and on the edge of the field. At one time it was thought that the long back focus, or distance from the rear lens to the film, was an advantage, but actually, this is not the case.

Petzval Lenses

Some of the older projection lenses which were made in the form devised by Petzval many years ago compensated for this defect in the lamphouse and mirror design to such an extent that the operators and theatre owners tend to blame the newer short focus lenses for the fall-off in illumination. The way in which the Petzval lenses compensated is shown diagrammatically in the upper portion of Figure 2. The two lenses shown in dotted lines indicate the front and rear elements of the Petzval lens, which, combined, produce a two inch focal length lens. It will be noted that the strongly spread ray coming from the edge of the mirror, and passing through the edge of the film gate diagonal, is intercepted by this lens, and, thereby, directed towards the front element and thence out to the screen.

The fortunate coincidence of this compensation probably has been one cause for delay in overcoming the defect in the lamphouse design.

From the practical side, it is probably better to attempt to overcome this defect in the lamphouse by a new style of lens. In fact, realistically, this is about all that can be done at this time.

New Type Projection Lens

In order to accomplish this result, Projection Optics Company, Rochester, New York, is now producing a line of projection lenses, called the Super Hilux line. These lenses have a strong rear element close to the film gate, and thus have a greater light collecting ability, or, as we call it, a greater "light collecting speed." In fact, the diameter of this rear element is substantially equal to its distance from the film gate, and thus the lens is said to have an f:1 light collecting speed, which is not to be confused with the normal "focal length speed" of the lens. This lens is shown in Figure IV, and it can be seen from this illustration that the construction differs considerably from the older type Double Gauss, which was shown in Figure 3.

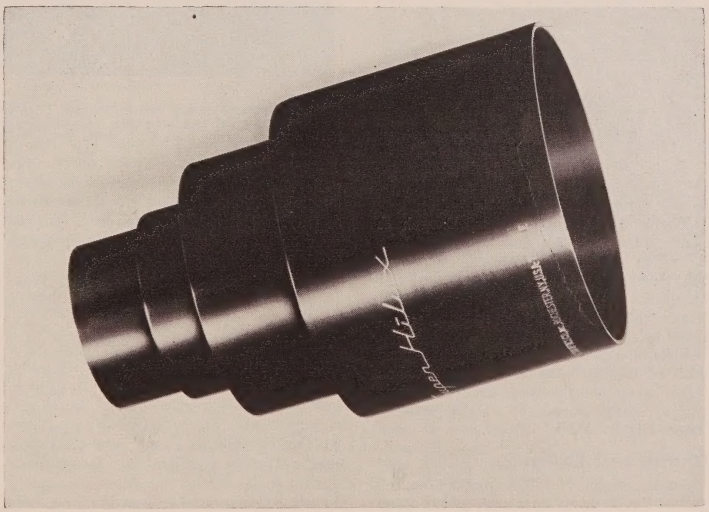
One advantage of the new Super Hilux is that there are only six (6) air-glass surfaces, which are practically all curved away from the film gate. This fewer number of air-glass surfaces increases the light transmission by several per cent, and increases the contrast as well. The curvature of all air-glass surfaces, away from the film gate, also helps to increase the light transmission and contrast. This Super Hilux lens is a true Anastigmat, and basically of the Gauss design, although the central component is made thicker to gain from the aberration standpoint. The thick central crown element is made of high transmission glass of relatively low index, but is cemented between two glasses, which are particularly chosen to function well with low reflecting film, so as to further increase the transmission of the lens.

In September 1950, Doctor Willy Merté stated in his treatise and Index on Zeiss formulae that this style lens used in the Super Hilux is probably the best type of lens yet designed. (Doctor Merté was in charge of the Optical Design Department at the Zeiss Works until the surrender of Germany at the end of World War II).

The field curvature of this lens is fully corrected, as is the spherical aberration, and the definition, as well as contrast, are very excellent.

The rays of light from the mirror have been determined by measurement and calculation, and are shown on Figure 4 to come out of the Super Hilux lens with a separation of 1.56 inches. It will be noted that Ray 2 of Figure 4 is the same ray as Ray 2 of Figure 3. This ray comes from the upper edge of the mirror. Ray number 1A on Figure 4 is a higher ray than Ray 1 on Figure 3, because the rear element of the Super Hilux is larger and closer to the film gate than is the rear element of the Double Gauss. This Ray 1A then exits from the lens in such a way as to make the edge bundle, 1.56 inches, higher than the 1.3 inches of the Double Gauss. This shows clearly that the Super Hilux has a larger edge bundle of light, and thus greater illumination on the edge of the screen.

In conclusion, the lamphouses and mirrors could stand some further improvement, but in the meantime lenses which compensate for the spreading of the light on the tubes of the projectors are helping to solve the problem of more illumination of the screen, and, particularly, on the edge of the screen.



SEEN (above and below) are two examples of the Projection Optics series of the new f/1.0 light collecting speed anastigmat projection lenses. They are available in a variety of sizes to suit requirements.

Progress in Lenses

A Review of the Development of Constantly Improved Lines of Projection Lenses for Use in Motion Picture Theatres

BRIEF: *All of the progress that has been made in the art of taking and reproducing motion pictures . . . would have been wasted if optical lenses were not developed that could paint a clear . . . sharp picture on a theatre screen . . . and still be practical in such matters as size . . . cost . . . and maintenance . . . This article . . . prepared by one of the leading pioneer firms in this field . . . offers a short history of the various lens series which were produced as the demands and requirements constantly became greater and more precise . . . One section which should prove to be of particular interest is that devoted to CinemaScope attachments . . . Drive-in operators should pay particular attention to this article as there is information here which could be of great value . . . This feature about one of the most important parts of the theatre's eye . . . is informative and interesting.*

THREE MEMBERS of the Super Cinephor f/1.8 lens series, which was introduced in 1953. All have a barrel diameter of 2-25/32 inches. Left is a lens with a 4½ inch focal length, center is 4¾, and the lens on the right has a 3 inch focal length. This series ranges from two to five inches.

The Bausch & Lomb Optical Company, Rochester, N. Y., recently presented with an honorary Academy Award "Oscar" for its scientific contributions to the motion picture industry, has been a leader in the production of motion picture camera and projection lenses since the days of Edison.

Since entering the motion picture optics field, Bausch & Lomb has brought out a series of lenses which trace the improvement of Hollywood's prime product and the enlargement of America's motion picture theatres through the years.

First B&L Lens

The first Bausch & Lomb lens, the well-known "Series O" line, was the mainstay of the motion picture projectionist from its inception, about 1920, until the early 1930s, when the new Series I Cinephor, with its greater focal length, was introduced.

Focal lengths ranging from four to six inches were available in the Series O lens. With an outside diameter of 1-11/16 inches, the lens was available in speeds ranging from f/2.9 to f/4.3.

Then, in the early 1930s, Bausch & Lomb introduced its new Cinephor lens Series I. A decided improvement over the Series O, the Cinephor Series I increased the clarity of the projected image with focal lengths ranging from three to eight inches.

Fifteen different focal length lenses with an outside diameter of 2-1/32 inches were available in the first Cinephor series. Lens speed on these models ranged from f/2.5 to f/3.4.

Clarity and Brilliance

As the size of motion picture houses across the country increased, and greater experience was gained in producing these specialized lenses, Bausch & Lomb introduced its Series II Cinephor to permit greater clarity and brilliance of image in these theatres.

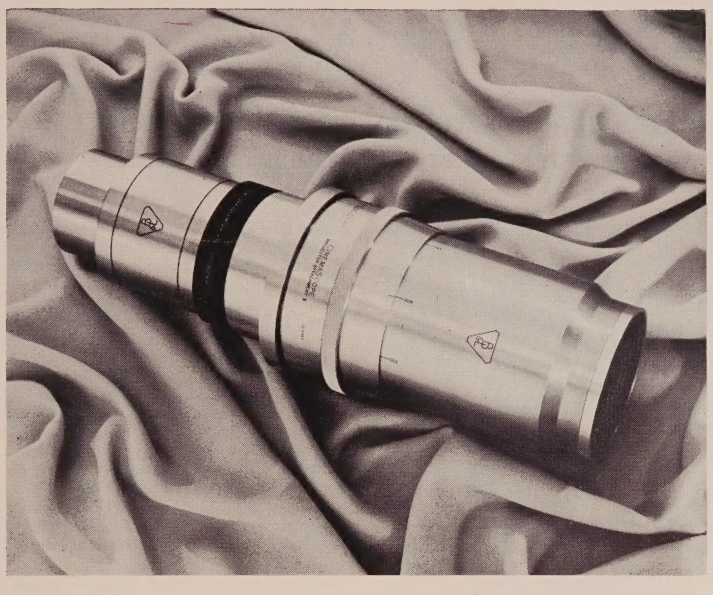
These improved lenses had focal lengths ranging from 5¼ to nine inches, and speeds varying from f/2.5 to f/3.7. Available in 11 versions, depending upon focal length, the Series II Cinephor had an outside diameter of 2-25/32 of an inch.

Shortly after introducing Series II, a manufacturing revolution took place in the Bausch & Lomb lens-producing methods. After embodying the Petzval design in its lenses for years, Bausch & Lomb engineers abandoned it for one which ultimately resulted in the design and production of the Super Cinephor.

Super Cinephor

The new Super Cinephor lens embodies six elements in its design, while the older Petzval-type of design called for four elements. The change in lens structure, made possible by the newly developed glass manufacture and design techniques, permit greater color correction in projection lenses, and allow images of greater clarity and brilliance to reach the screen.

Focal lengths of the Super Cinephor range from two to five inches, with the lens available with outside diameters of either 2-1/32 of an inch, or 2-25/32



USED IN drive-ins to permit placement of projection boot at rear of parking areas, this reverse CinemaScope attachment permits the use of lenses with half the necessary normal focal length.

of an inch. A speed of f/2.3 is possible, and the new lens is available in any of 12 focal distances.

Coated Lens

Probably the most significant B&L contribution to the motion picture projection field was the coated lens. First introduced commercially at the nation-wide showings of "Gone With The Wind" in 1939, B&L "Balcoted" projection lenses have boosted the light transmission as much as 30 per cent in some cases. The added screen brilliance which this brought to the famous film epic greatly added to its impact on American audiences. All B&L lenses have been Balcoted ever since, setting a standard for the industry.

The first Balcoted lens was the Super Cinephor f/2 series, with a focal length ranging from two to five inches. A high fidelity lens, the Super Cinephor f/2 is available in two classes. One version, with a 2-1/32 inch diameter, has a focal length up to three inches. The other lens available in this series has a diameter of 2-25/32 of an inch, and focal lengths between two and five inches.

As the growing size of America's motion picture theatres made clearer, more brilliant, and larger screen images necessary, Bausch & Lomb produced its Super Cinephor lens in a four-inch diameter version. This has a focal length ranging between 5¼ and seven inches, which in turn allows the projection booth to operate efficiently at a greater distance from the screen.

Simultaneous with the development of the Super Cinephor f/2 series, Bausch & Lomb produced its Cinephor f/2, with focal lengths ranging from 3½ to five inches, and a diameter of 2-25/32 inches. This lens, too, was Balcoted.

In 1953, Bausch & Lomb introduced a new series of the Super Cinephor, with a lens speed of f/1.8. Designed for the largest theatres, the f/1.8 Super Cinephor had focal length ranging from two to five inches, with a barrel diameter of 2-25/32 inches.

Another version of this latest Super Cinephor, with a four inch barrel, has a focal length ranging from 4¾ to seven inches. Designed primarily for drive-in theatres, this lens has a rated speed of f/1.8.

CinemaScope Lens Perfected

The year 1953 was a great one for the Bausch & Lomb engineers. Not only did they produce another outstanding member of the Cinephor family, but they perfected the CinemaScope lens, which brought audiences from the television set back into the theatres.

The CinemaScope "lens" is not actually a lens at all. It is, rather, an anamorphic attachment which broadens an image which has been "squeezed" upon the film, while being projected.

These CinemaScope attachments are available in two sizes, which will fit 2-25/32 inch or four inch barrels, and have no speed or focal lengths of their own. They are utilized wholly as an auxiliary unit of the prime lens, magnifying the projected image 2X on a horizontal plane only.

These CinemaScope attachments have made possible wide-screen activity to be carried on extensively by the motion picture industry.

Bausch & Lomb also produced the CinemaScope photography lenses, which compress the photographic subject on conventional motion-picture film. This compressed picture is "unsqueezed" by the CinemaScope attachment.

The CinemaScope taking lens is one which permits greater peripheral scanning of the scene before the camera than is possible with a conventional lens. In effect, it permits the camera to photograph not only that which is directly in front of it, but records an image which is roughly comparable to that seen when the human eye is moved from one side to the other.

Drive-ins

The CinemaScope attachment has also found use in conventional motion picture presentations, primarily by outdoor theatre operators. As these outdoor theatres grew, it was found that placement of the projection booth at the rear of the parking area permitted a greater number of cars on the ramps, and did away with "dead" areas directly behind the booth.

But this move back resulted in reduced picture clarity and brilliance. To combat this, outdoor theatre operators began seeking better lenses, and it was found that a theoretical 11 inch focal distance was necessary when the booth was some 600 feet from the screen. In addition to being unavailable, such a monster lens would have cost $5,000 to make.

Reverse the Unit

Experimentation, however, showed that a reversed B&L CinemaScope projection unit, attached to the prime lens, resulted in the same size picture as when exactly one-half the focal length was used.

This device holds the picture within the confines of the screen, and permits outdoor theatre projection booths to be moved to the rear of the parking area without the additional expense of a specially-made lens.

When Bausch & Lomb produced the CinemaScope 35mm. projection lens, the company also began work on the equipment necessary to exhibit 16mm. CinemaScope motion picture films, widely used in small towns, institutions, and Army and Navy installations.

The result of this research and experimentation was the first 16mm. CinemaScope projection lens and prime lens manufactured as a single unit. This consists of a two inch prime lens and anamorphic system, which will adapt to the popular 16mm. sound projector. These lenses will not fit silent projectors.

Continued Progress

Bausch & Lomb is continuing in motion picture technology, and within the past year has introduced a line of heat-reducing filters called "draft glasses." These prevent about 50 per cent of the heat from carbon-arc light from reaching the films.

Bausch & Lomb also produces prime lenses, motion picture taking lenses, condensers, reflectors and sound reproducers for projectors.

Research on all products is a continuing project at the Bausch & Lomb headquarters in Rochester, N. Y. Improvements are included on lenses and other equipment as new discoveries and techniques proved their worth.

A Lens Story

A Summary of the Background and Development of the Complete Kollmorgen Line of Lenses, and Their Construction Features

BRIEF: ***With the information and illustrations furnished by the manufacturer . . . this article offers the reader an interesting review of the progress that has been made in the motion picture projection lenses developed and made available to theatremen by the Kollmorgen Optical Corporation . . . Starting with the first lens produced by the firm in 1919 . . . the article carries the reader right through to the latest pieces of optical equipment designed to meet today's vastly improved and demanding standards of projection . . . There is included much basic information about lens design . . . speed . . . construction features . . . and similar data which will give a greater understanding of lens requirements . . . and what to look for in the selection of a lens.***

The history of lenses suitable for projection goes back over 100 years to the year of 1840 when an Austrian, Joseph Petzval developed the first practical projection lens. "Petzval's Doublet" lens was a compound lens which was relatively fast and yet was free from most of the aberrations and distortions then common in the simpler lenses. Lenses of the Petzval type, with some improvements, were generally used for theatre projection until the 1940's Lenses of this type, while far superior to old style simple lenses, had many limitations. Among the most noticeable drawbacks were heavy field curvature and poor definition in the shorter focal lengths.

THE VERY fast Super Snaplite f/1.9 lens was offered to theatremen by Kollmorgen in 1947.

Basic Improvements Made

Optical designers had for many years worked on basic improvements to the Petzval lens and in 1919 Kollmorgen introduced the Series I Snaplite. This lens was typical of the faster lenses then available. The speed of the Series I Snaplite was as fast as f/2.3 in the shorter focal lengths, and these lenses gave better color correction, improved flatness of field, and excellent contrast.

KOLLMORGEN introduced the Series I Snaplite (left) in 1919. The next new lens series, the Series II (right) was made available in 1945.

Later models of the Series I lens also offered hard, anti-reflection coatings on all air-to-glass surfaces to insure light transmission and reduce internal reflections.

In 1945, the Series II Snaplite was put on the market. The Series II Snaplite is built around optics of large aperture, carefully computed to combine brilliant illumination with great freedom from abberrations. The image displays excellent contrast, definition, flatness of field and freedom from color fringes. Speed of f/2.0 is maintained in all focal lengths up through five inches, at which point the size of the optics is limited by space available in projectors. Durable anti-reflection coatings increase light transmission and improve image contrast through elimination of internal reflections. The one-piece mount and sealed lenses of Series II Snaplites assure trouble-free performance. Further, this mount is finished with a matte black anodized treatment, inside and out. An integral part of the metal, this finish cannot chip or peel off.

New Lens Introduced

A milestone in projection lens history was reached in 1947 when the Super Snaplite f/1.9 was offered to the trade. To meet the exacting requirements of wider-angle projection and higher magnification, and still maintain utmost image quality, Kollmorgen Optical Corporation offered the Super Snaplite f/1.9 projection lens. This exceptional speed resulted in more uniform screen illumination and gave greater picture brilliance without extra current consumption — an important factor in year-after-

year operating economy. Full advantage was taken of modern lamp housings with their high-operating reflectors or condensers. The Super Snaplite f/1.9 is a true anastigmat—of quality comparable to the finest camera lenses. Anastigmats combine virtually perfect flatness of field with great covering power. In terms of image quality, this means that sides and corners of the picture are virtually as wire-sharp and as free from color fringes as the portions near the center. This is of particular importance in extreme high-magnification or wide-angle projection.

Super Snaplite f/1.9 lenses are available in focal lengths from two inches through five inches in one-quarter inch steps. Speed of f/1.9 is maintained in all focal lengths from two inches through four and three-quarter inches. In addition, all glass-to-air optical surfaces are treated with a hard, durable, anti-reflection coating for even greater screen brilliance and image contrast. Lenses are sealed in the one-piece mount against entrance of moisture, dust or oil. Further, the anodized finish is an integral part of the metal, it cannot chip or peel off. Fittings are available to adapt Super Snaplite f/1.9 lenses to all currently manufactured professional projectors.

Major Development

The next major lens development came with the four-inch diameter Super Snaplite. The four-inch diameter Super Snaplite f/1.9 brings to the longer focal length field the unsurpassed sharpness, the unexcelled uniformity of illumination, and the unmatched brilliance for which the standard size Super Snaplite f/1.9 has become known. Four-inch diameter Super Snaplites are available in focal lengths from five through seven inches, in quarter-inch steps. In all these focal lengths the true effective speed of f/1.9 is maintained. Four inch diameter Super Snaplites are also available, to special order, in focal lengths longer than seven inches, at somewhat slower speeds.

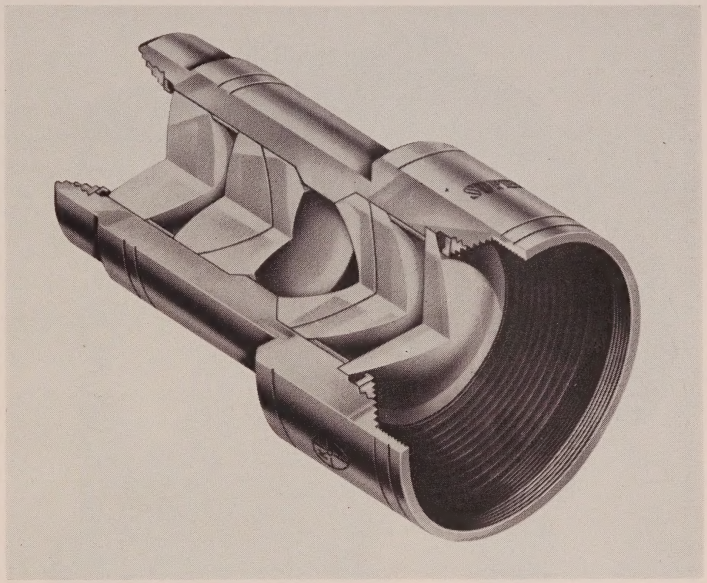
The lens mount is of one piece high strength aluminum alloy, with no threaded joints to loosen up, impair alignment or leak oil. Front and rear lens elements are sealed with special gaskets so that under normal conditions the lens need never be taken apart for cleaning. The mount bears a gold anodized finish, an integral part of the metal, which cannot chip, flake or peel off. All glass-to-air optical surfaces are given a hard, durable anti-reflection coating for greater contrast, utmost screen brilliance. Because of the large size of the optical elements, this lens can be used only in projectors equipped with four-inch diameter lens holders. By far the largest market for these big, fast lenses was the rapidly growing drive-in segment of the exhibition business.

Fastest Speed

By 1954, the widespread use of several critical new projection processes resulted in the development by Kollmorgen of a Super Snaplite f/1.7 lens. These lenses offer the fastest speed of any known 35mm projection lens . . . f/1.7. This exceptional speed results in exceptionally uniform screen illumination and gives as a bonus wire sharp projection and top definition. Today's need for increased illumination, a more critical image, and a more even distribution of light at the outer margins of the screen, have created a need for a new fast lens.

Super Snaplite f/1.7 lenses are available in focal lengths from two and one-half inches through four inches in one-quarter inch steps. The speed of f/1.7 is maintained in all of these focal lengths. All glass-to-air optical surfaces are treated with a hard durable anti-reflection coating for even greater screen brilliance and image contrast. These lenses have a sealed one-piece mount. Fittings are available to adapt Super Snaplite f/1.7 lenses to all currently manufactured professional projectors.

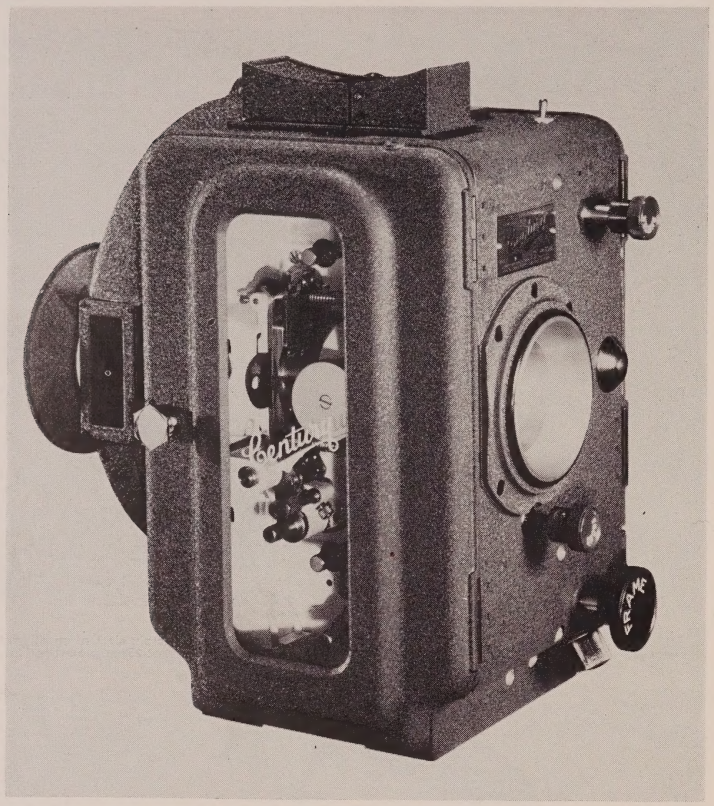
Design and development continue and better and better projection is the result.



A CUT AWAY view of the Super Snaplite f/1.9 lens is seen (above) showing the six element anastigmat construction and one piece barrel. The Super Snaplite f/1.7 (below) is the fastest 35mm projection lens.

Century Projector Care

A Detailed Review of the Important Design Features, and the Operating and Maintenance Procedures to Be Followed to Achieve Maximum Results



OTHER THAN keeping the projector oiled and cleaned, the maintenance of the Century projector should be minimum. However, it is sound mechanical practice to periodically check any piece of fine equipment.

BRIEF: *With the information and illustrations furnished by the manufacturer . . . this article will give the reader vital information about the Century projector mechanisms . . . The various component parts are explained . . . as to their construction and function . . . in order to give a better understanding of the suggested maintenance and operating procedures . . . There is detailed data about such things as lubrication . . . adjustment and replacement of parts . . . how to check the shutter timing . . . etc. . . . There is also a section devoted to a description of the latest models available . . . with an explanation of the new and improved features that have been recently incorporated into the projector mechanisms.*

The requirements and standards of perfection relating to the projection of motion pictures have become more and more exacting during the past few years.

Century Projector Mechanisms have kept pace with these requirements. Century model C, single shutter, and model CC, double shutter, standard and water-cooled mechanisms will meet the highest standards of modern projection.

Integral Casting

The main frame, top, bottom, front and rear of the Century mechanism are made of one integral casting rigidly supporting all operating units, thus insuring perfect shaft and gear alignments. No more bind ups of shafts or show failures due to poor shimming or uneven mounting plates. White, baked on, enamel finish in the operating and gear sides make the mechanism easy to keep clean. All assemblies are designed as individual units for accurate and easy servicing.

The film trap, film gate, gears and shaft designs all are based on strong mechanical principles.

The direct drive, four bearing intermittent movement is precision made. Starwheel slots and radii are positioned and machined to plus-minus one ten thousandth of an inch. The intermittent sprocket has each tooth individually ground to position and shape after hardening. The intermittent sprocket pads are mounted on the intermittent arm, independent of the film gate. These features produce sharper and steadier projection for improved theatre performance.

SIMPLE DESIGN

The Century C projector mechanism has only five rotating shafts and nine gears, plus the intermittent movement. This means ease of operation, quieter running and long life. The driving shafts are rotated in sealed-for-life ball bearings which require no lubrication and will not bind up. Modern design does not require oil pumps, oil sprays or oil baths to adequately lubricate all parts.

The operating side is simple and straight forward. The upper and lower film sprockets are hardened and ground to perfect concentricity and manufactured in the approved diameter set forth by the motion picture industry for use with the new safety film.

The upper loop above the aperture and the lower loop below the intermittent are correctly set by automatic loop setting pad rollers. A short loop can not occur in threading film into a Century mechanism.

The film trap and gate is mechanically sturdy and all wearing parts are of the finest steel, hardened and polished to guarantee smooth film travel and steady picture reproduction. The film trap shoes, studio guides, and the lateral guide roller assembly, are all designed to insure against film side weave.

A secondary framing aperture is provided in the film side of the mechanism with its control switch on the outside of the mechanism, for conveniently inspecting the film at all times.

The film gate is mounted on a sliding tube at the rear of the lens holder. This type of construction assures accurate alignment of the gate with the film trap and prevents displacement of gate, due to accidental bending. The film gate pad is long, of one piece design, effectively stopping film clatter. Matched pressure on both edges of the film is assured by the centrally located coiled tension springs.

The film gate pad spring adjusting nuts can be positioned to provide the proper film pad pressure to handle new as well as old film. Film pad pressure, less than normal, will give exceptionally

steady pictures. Opening and closing of the film gate is accomplished by the large gate knob device mounted in the lens holder casting.

The lens mount is heavily constructed, completely enclosed and is designed to take four inch diameter lenses. Lens adapters are supplied to accommodate series II lenses. Other adapters are available to mount any make or size lens.

Asbestos heat shields, plus baffle plates, are provided to take away arc lamp heat from the aperture.

Water Cooled

For greater film safety, longer film life, and sharper defined pictures, Century has engineered and designed water-cooled mechanisms. These mechanisms with water-cooled aperture units make it possible for large indoor and drive-in theatres to present a big picture screen, provide more illumination, and yet maintain a cool picture aperture and film trap.

The shutter shaft and vertical shaft, including their respective gears, collars, bearings, etc., are removable from the projector mechanism as complete units. Unit type designs are used throughout, and assemblies and parts may be replaced easily without the use of alignment tools or reamers.

The Century Model CC, double shutter mechanism retains all the features of the single shutter mechanism, plus the addition of a second reverse shutter which increases the light efficiency of the mechanism. The two shutters though revolving in opposite directions, are scientifically interlocked to project pictures free from travel ghost. The use of the double rear shutters reduces the heat on the film, lessening the danger of film fires.

The main shutter and the reverse shutter are both housed in one rear casing. The reverse shutter is driven from its own drive gear mounted on its own ball bearings and is entirely independent of the main shutter. Either of the shutters can be used for single shutter operation by removing the other, insuring 100 per cent performance.

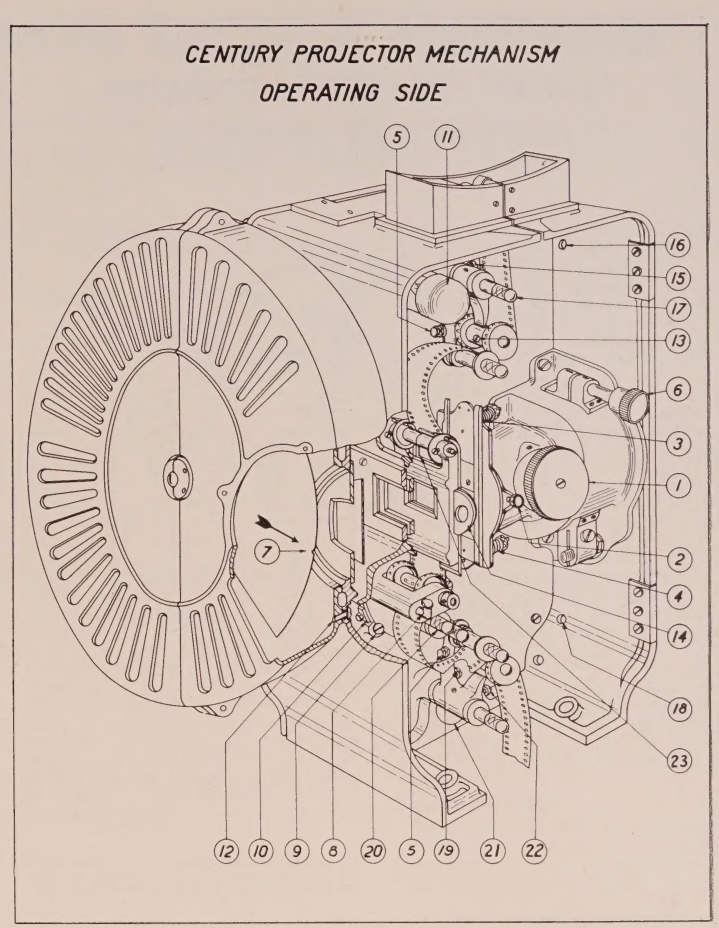
LUBRICATION AND MAINTENANCE

Oiling the Projector

Place a few drops of oil on each gear daily. An excessive amount of oil does no more good than just enough. Any excess of oil will be thrown off the gears and will eventually make the inside of the projector look very dirty if it is not cleaned away.

Put a drop or two of oil daily on the vertical shaft at the intermittent drive gear. Move the framing adjustment up and down a few times while oiling.

The intermittent should be filled through the oil cup on the operating side. Fill to the level indicated on the oil gauge. A little oil goes a long way. *Do not use excessive amounts of oil,* it will only overflow through the vent hole and possibly be forced out of the oil cup. Fill to oil level only. To remove excess oil, or to drain the intermittent, remove the bottom screw. A clean cloth should be placed beneath this screw to catch the oil and prevent it from running down into the sound reproducer.



When replacing the drain screw be sure the steel, fibre and copper washers are placed in that order on the screw.

Oil should not be added to the intermittent while the projector is in operation—except in an emergency. The intermittent cam acts as a splash distributor supplying fresh oil constantly to the cam, starwheel and bearings. Therefore, there may be no indication of oil level showing on the gauge while the projector is operating.

Maintenance

Other than keeping the projector oiled and cleaned, the maintenance of the Century projector should be minimum. There are several new and important improvements which should be noted, and advantage taken of them in the regular maintenance routine. *Do not use benzine or other cleaning fluids* on the gears or shafts where excess amounts might enter the sealed ball bearings.

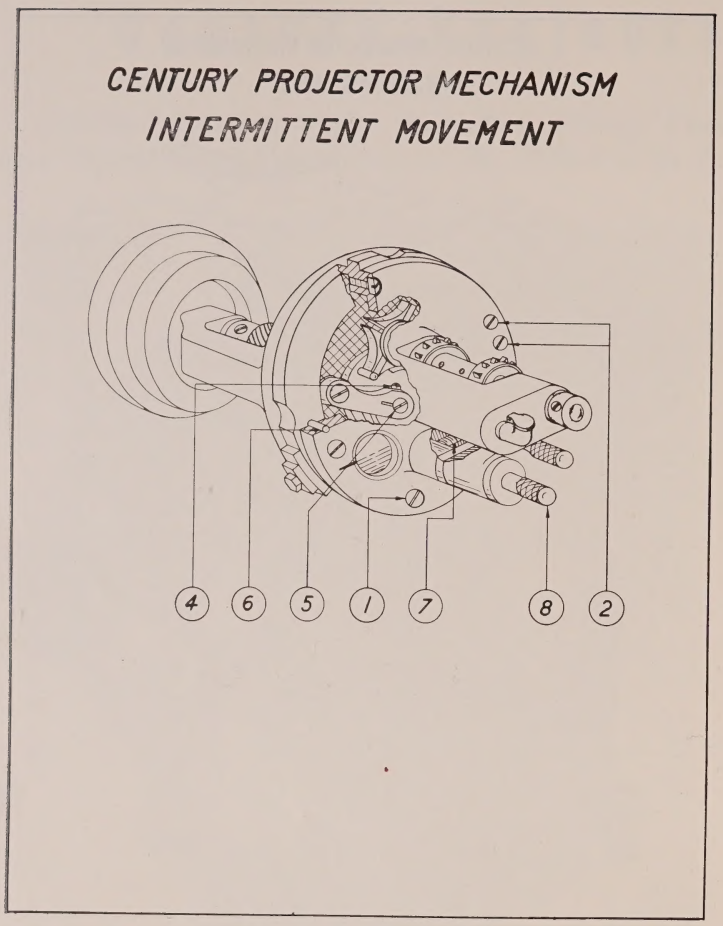
It is sound mechanical practice to periodically check over any piece of mechanical equipment. Mounting screws, holding screws, and like parts should be checked for tightness. This is particularly applicable to parts installed in the field, as drive parts, including main drive gear screws, sound head adapter parts and mounting screws. A regular program of lubrication, cleaning, and preventive maintenance will pay dividends in continuous uninterrupted performance and a saving in part replacements.

The Century mechanism consists of unit assemblies such as; the intermittent movement with intermittent sprocket pad; the main drive shaft, the vertical shaft, the shutter shaft, the film trap, the film gate, the upper and lower sprocket shafts, the upper and lower pad roller arms, the lens holder and gate control knob, etc.

Practically all the operating units of the mechanism are easily removed and replaced. Most of the removable parts are located by dowel pins making the replacement comparatively easy. Spare parts including complete assemblies may be kept in the booth at all times and replacements quickly made if necessary.

Adjustment and Replacement of Parts

Century's modern construction makes these following mechanisms simple to maintain and service. The operating



assemblies and components are easily removed and most adjustments and replacements can be accomplished in the booth by qualified personnel. If after many years of service complete overhauling is desired, this work should be done by an established theatre supply company, service organization, or by the Century factory.

The Century intermittent movement is manufactured with utmost precision. Dimensional variations are held within tenths of thousandths of an inch. The star and cam are expertly matched, shafts are hand fitted in their bushings and the complete unit assembled and adjusted by specially trained factory personnel. It is, therefore, recommended that the overhauling of the intermittent movement be performed at our factory where the tools, gauges and complete facilities are available for precision work.

Check Shutter Timing

To check timing of the shutters on the Century CC model, remove the spot sight glass in the fixed shutter guard by pressing lightly inward and upward. Note that the hub of the intermittent movement flywheel is slotted. Turn the mechanism until this slot is parallel with the shutter shaft at the same time the intermittent sprocket is moving. *Sprocket must be in motion.*

The slot in the flywheel hub is parallel with the shutter shaft twice in each revolution; once when the cam and starwheel are locked, and again when the sprocket is moving. The latter case is the correct position for checking adjustments and corresponds to a two tooth advance of the intermittent sprocket. In this position, the notches in the shutter blades should line up exactly with each other and with the indicator bar across the spot sight aperture. If the notches do not line up as required, try adjusting by means of the shutter adjusting knob at the front of the mechanism.

When adjustment is made by means of the knob, the intermittent flywheel must remain stationary. If proper adjustment can not be made by means of the knob, the shutters will require resetting.

To Reset Shutters (Model CC)

Set the shutter adjusting knob at the front of the mechanism in its mid-position. Remove the shutter guard on the drive side of the mechanism by taking out the two screws. Make certain that the intermittent sprocket is advanced two teeth from its stationary position and remains there or that the slot in the intermittent flywheel hub is parallel with the shutter shaft as explained above. Loosen shutter hub clamp screws and rotate shutter on shaft until notches line up as required. *Do not allow shafts to turn.* Holding the intermittent flywheel while rotating the shutters will prevent shaft movement. Tighten shutter hub clamp screws. Replace shutter guard. Check notch alignment and replace spot sight glass. Shutters are now properly set. The shutter adjustment knob should not be turned unless absolutely necessary.

Improved Models

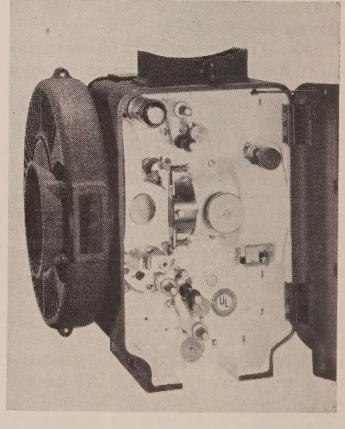
A more modern version of the model C and model CC projector mechanisms is now available. The new models have an enlarged observation door for easier viewing of the film as it passes through the projector.

A new design of non-condensing water-cooled aperture that can easily be changed to accommodate all standard and special sizes for VistaVision, CinemaScope, and other wide screen systems, has been developed.

The efficiency of the mechanism has been increased by newly designed light shields to accommodate the light output arc lamps. The mechanism is designed to use four inch diameter high speed lenses, including those for CinemaScope.

The lens mount incorporates advanced features of design so that a projectionist can easily focus the new, more critical short-focus high-speed projection lenses. In addition, a specially developed lubricant, which will not flow or creep, or change viscosity from freezing to boiling temperatures, insures uniform focusing under all conditions.

The main drive shaft of the mechanism has been designed so that the soundhead coupling is mounted directly to the shaft, eliminating the usual 17 tooth pinion and stud unit. This results in a more positive trouble-free driving arrangement between mechanism and soundhead.



INTERIOR of the Century projector mechanism which features an enlarged observation door, and a non-condensing water cooled aperture.

Simplex Projection Equipment Maintenance

Valuable Guide to the Proper Maintenance and Operation of Latest Simplex XL Professional Projection Equipment

BRIEF: *Although it was always of great importance for a theatre to keep its projection and sound equipment in perfect working order . . . it is of even greater now because of the increased demands made by wide screen projection systems . . . and stereophonic sound . . . This article is designed to give the reader important information and suggestions about keeping Simplex XL projection equipment operating in such a manner that it always is in condition to present a program free of mechanical breakdown . . . and one that is capable of faithfully reproducing that which was originally put on the film and sound tracks.*

By William Hecht
Product Engineer, International Projector Corp.

In the last three years, the motion picture industry has undergone revolutionary changes, especially in screen size. The huge screens in common use today demand modern projection equipment and the very best possible operation. To obtain the necessary picture quality, it will be assumed that modern projection equipment has been installed —this article is directed primarily to the maintenance and operating procedures necessary to provide optimum performance from your equipment on a continuous basis.

Sprockets and Pad Rollers

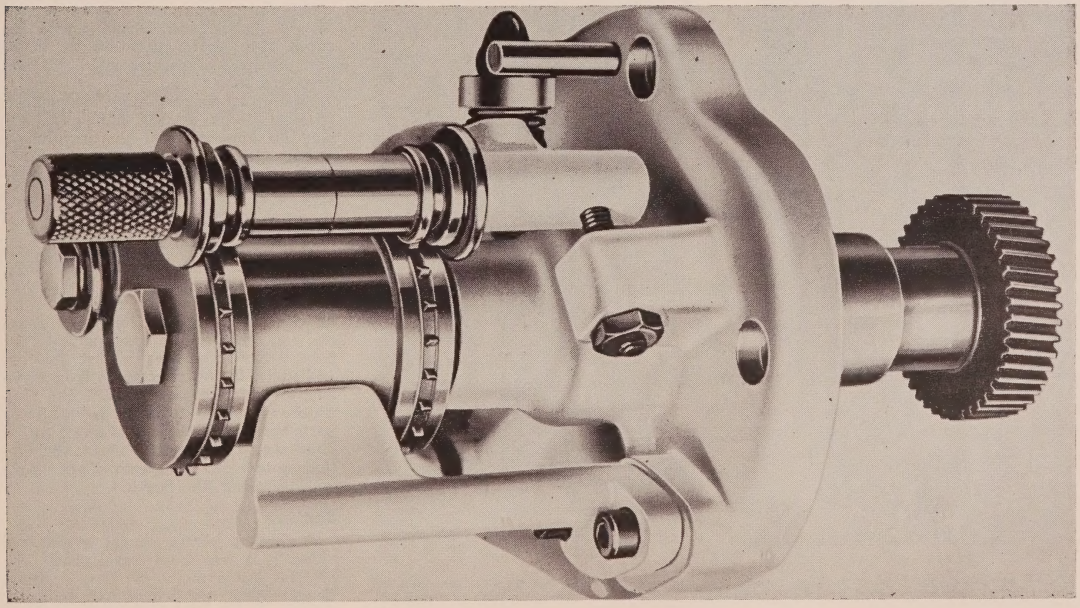
The introduction of CinemaScope and multi-magnetic track stereophonic sound brought with it design changes that included "narrow tooth" sprockets; although tooth width is reduced by one-third, sprocket and film life is increased considerably because of the better perforation engagement achieved by increasing the sprocket diameter at the same time. Since the intermittent sprocket is responsible for the exacting job of registering each frame in the aperture with micrometer accuracy, it is important that the sprocket teeth be kept scrupulously clean from dirt and grime deposited there during the passage of film. Frequent use of a stiff bristled tooth brush will prevent the build-up of dirt which, if allowed to continue, can cause an unsteady picture. Occasionally, the intermittent sprocket should be checked for worn rims or undercut teeth which can also cause unsteadiness. A definite increase in film noise is a good indication that the intermittent sprocket is undercut and should be replaced. Since the feed sprockets on the XL projector have 24 teeth, very little wear can be anticipated and hence, little or no maintenance other than cleaning will prove necessary.

During operation, only one of the two pad rollers on each feed sprocket should rotate when the pad roller arms are properly adjusted. This takes place because the pad rollers located nearer the front of the projector on the upper and lower feed sprockets act only as guards in preventing damaged film from accidentally slipping off the feed sprockets. On the other hand, the two inner pad rollers on the upper and lower feed sprockets should rotate because the film loops bear against these pad rollers. To check the pad roller assemblies for proper film engagement, the pad rollers should just clear a double layer of film wrapped tightly around the sprocket. If adjustment is necessary, simply turn the pad roller arm adjustment screw located opposite the pad roller arm as required.

Best performance from the all-nylon pad rollers is obtained if no oil or other lubricants are present on the pad roller shafts. If the nylon pad rollers turn sluggishly, remove the pad roller shafts by loosening the retaining set screws located in the pad roller arm and remove all traces of oil.

Demagnetization

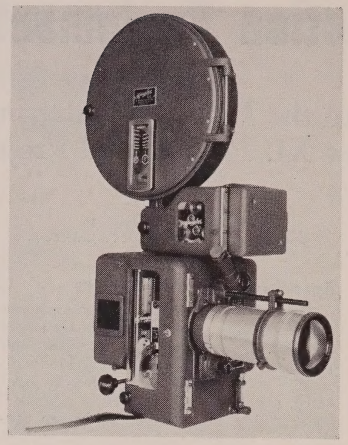
Any steel part that is magnetized and comes in contact with magnetic sound tracks will cause deterioration of both sound quality and level. To help



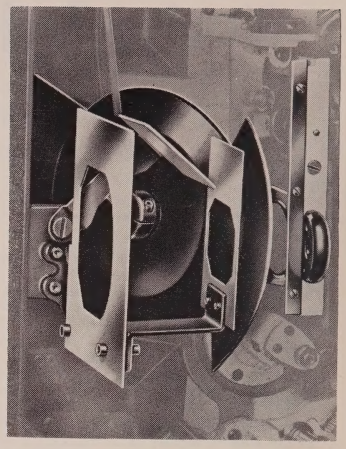
SPROCKETS and pad holders had to be changed with the introduction of CinemaScope and the multi-magnetic track stereophonic sound systems.

prevent the possibility of such damage, Simplex XL projection equipment is thoroughly demagnetized prior to shipment from the factory. During installation, projection equipment once again undergoes demagnetization. Under normal operating conditions, parts which have been demagnetized will not again become magnetized, however, it is a good plan to periodically check all steel parts that come in contact with magnetic sound tracks. A small jeweler's compass can be used for this purpose. If it is suspected that a part has become magnetized, one of the commercially available degaussers can be used to demagnetize the part. In some places—particularly on the trap and gate—it may be necessary to remove the magnetized parts in trder to perform this operation effectively.

As a general rule, it is recommended that the reproduce head be demagnetized approximately once a month. This can be done with the aid of a small degausser which is moved slowly across the reproduce head to a point about two feet away.



THE XL projector lens holder is seen. It can support the smaller anamorphic lenses properly.



THE SHUTTER adjusting knob may be turned to eliminate all of the traces of halo or of fringing.

Lens Holder

The XL projector lens holder will adequately support the smaller series of anamorphic lenses without resorting to external supporting devices.

With the larger series of anamorphic lenses which are commonly used with four-inch diameter projection lenses, an anamorphic lens support is necessary. The bracket holding the anamorphic lens supporting shaft is adjustable and can be lowered or raised as required to obtain proper support for the lenses. When correctly adjusted, the anamorphic —projection lens combination can be slid in and out of the unlocked lens holder by rotating the support roller located on top of the anamorphic lens supporting bracket.

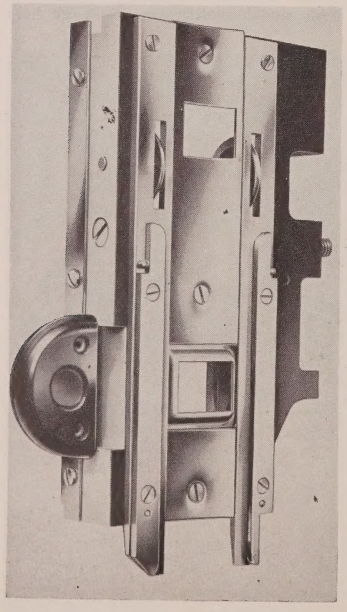
For maximum light transmission—and today every lumen counts—the lens surfaces should be cleaned daily. Lens tissues together with any good lens cleaning solution may be used for this purpose.

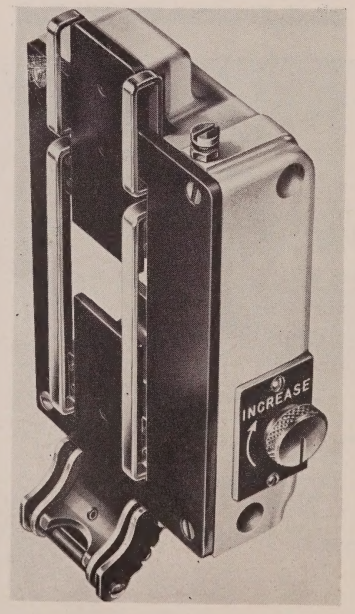
Film Trap and Gate

If your equipment has been in use for say, a year, it is a good idea to examine the film trap for proper lateral guide roller adjustment which, in turn, can mean a steadier picture. This can be done by removing the film trap and examining the setting on the fixed lateral guide roller (nearest the operator) with the aid of a straight edge held tightly against the roller and the film guide. The fixed lateral guide roller is correctly positioned when it just bears against the straight edge. Should an adjustment be required it is only necessary to loosen the set screw located underneath the film trap directly behind the lateral guide roller and then slide the guide roller pivot pin to achieve the correct setting. The pivot on the opposite side of the film trap should then be adjusted to provide minimum play consistent with free rotation of the guide roller assembly.

Film runners on the trap play an important part in keeping the picture steady. A close examination of the film runners under a good light will reveal if any wear or grooving has taken place which may cause unsteadiness or weave. Should replacement be necessary, the dowel pins located on both sides of the film trap will properly position the new film runners.

The pressure pads and intermittent sprocket shoes on the film gate also play an important role in providing a steady picture. Replacement should be made if an examination reveals that the pads or shoes are worn or grooved.





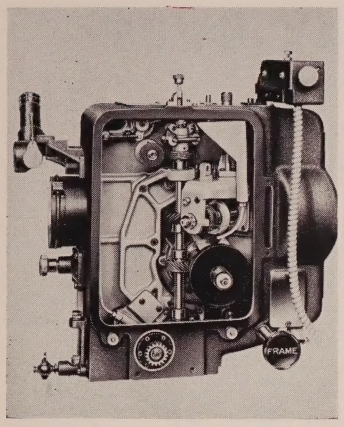
IF THE equipment has been in use for a year it is suggested that the film trap be examined for proper lateral guide roller adjustment, which will usually mean putting a steadier picture on the screen.

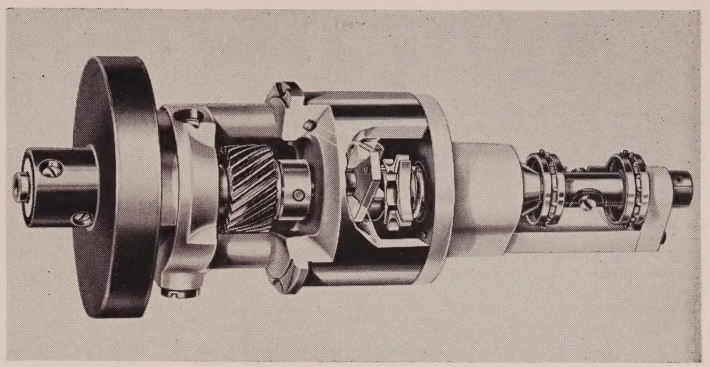
Projector Cooling

In drive-in and larger indoor theatres you may have recently installed large arc lamps burning the new, higher output carbons. The huge increases in light, of which these new arc lamps are capable, can heat the projector parts to the point where they are almost too hot to handle. In these instances it is advisable to install a water cooled film trap which will serve to keep the projector parts comfortably cool. The water cooled film trap, however, will not lower film temperature in the aperture and hence will not affect film buckle.

Shutter

A pleasing picture cannot be obtained unless it is free from travel ghost. The SMPTE has available a "Travel Ghost Target" test reel which will critically





ALL METAL gears and rotating shafts in the XL's are hardened or made from high strength steels, and all rotating parts are continuously sprayed with oil. There is very little maintenance required.

check for this condition. If you are unable to obtain this test reel, observe title shots on the screen for travel ghost and if necessary, turn the shutter adjusting knob located on top of the projector until all traces of halo or fringing disappear.

Gear Compartment

Since all metal gears and rotating shafts are hardened or made from high strength steels to ensure long life, and all rotating parts are continuously sprayed with a bath of oil assuring positive lubrication, no maintenance is necessary other than an oil change two or three times a year. To drain the oil compartment, remove the drain plug from the oil gauge. When the oil compartment is drained, dry both the plug and plug hole. Before replacing the drain plug, apply to the threads a small amount of non-hardening gasket sealer. Simplex oil should then be added by pouring through the opening surrounding the shutter adjusting knob on top of the projector. Sufficient oil has been added when a continuous spray is observed during operation, however, care should be taken not to fill the oil compartment above the level of the main drive shaft or oil will leak from this point.

Oil for constant pressure lubrication of the intermittent movement is also supplied by the pump in the gear compartment, therefore, no additional maintenance is required for the "heart" of the projector.

Magnetic Soundhead

The Simplex XL magnetic soundhead is engineered to provide high quality sound reproduction from multi-magnetic-track release prints. Since this soundhead is film driven, few moving parts are necessary resulting in long life and simple maintenance. To ensure continued optimum performance, the maintenance procedures outlined below are suggested.

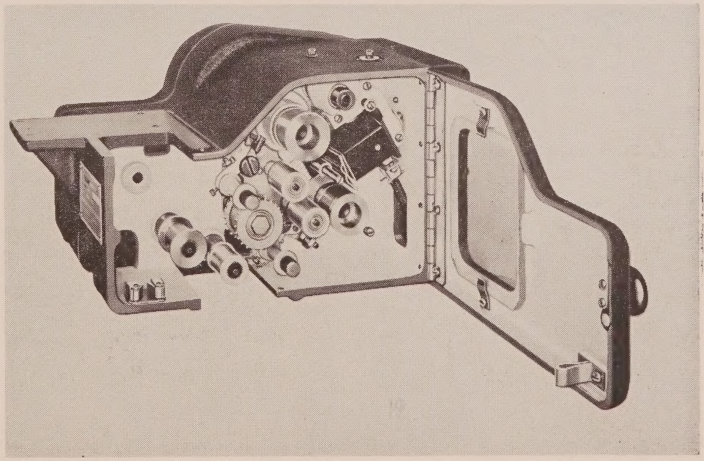
Reproduce Head — Proper adjustment of the reproduce head is necessary to obtain maximum useful life. Due to natural film curl, wear on the two center tracks (2 and 4) will be greater than the wear on the two outer tracks (1 and 3). The important thing to remember, however, is that the wear on the two outside tracks must be even and the wear on the two center tracks must be even. If the reproduce head exhibits uneven wear, it is indicative of improper adjustment and can result in rapid deterioration of sound from one or two channels. Under this circumstance it is advisable to call in a competent service man for the necessary adjustment.

Mechanical Maintenance — Continued satisfactory service depends, of course, on good housekeeping. Any surfaces which come in contact with the film—especially in the picture area—should be kept free of foreign matter. Pad rollers, guide rollers, tension rollers, sprocket and drums should rotate freely with no indication of stickiness.

To provide flutter free sound, the lower tension roller is silicone oil damped. Since this design requires no arms or linkages, no attention need be paid to adjusting for such flutter introducing factors as backlash or endplay. The viscosity of the silicone oil used for damping the lower tension roller is such that leakage will be practically non-existent. An occasional check for proper damping is in order, however, and is done by pushing the lower tension roller up and down. A definite drag indicates that the oil level is correct. Should no damping be evident, it is recommended that a service man be called to check the lower tension roller assembly.

During operation, the two tension roller arms should be separated one-eighth inch to one-quarter inch and the rollers should ride midway between the upper and lower drums. If the tension rollers are not in this position, loosen the locking screw located in the lower right hand corner of the soundhead approximately one-quarter turn and then rotate the adjusting screw (located below the locking screw) until the tension rollers are in their proper position. This adjustment must be made with film running. Tighten the locking screw when the adjustment is completed.

Proper operating and maintenance procedures will ensure optimum performance from Simplex XL projection equipment. Taking pride in the daily care of your precision projection equipment will pay dividends where it counts —on your theatre screen.



SINCE THE Simplex XL magnetic soundhead is driven, the maintenance needs are very simple.

Motiograph Projector Care

The Major Features and Component Parts of the Latest Motiograph Projector Mechanism Are Examined, With Maintenance Suggestions

BRIEF: *In order to get all out of a motion picture projector mechanism that has been built and designed into it . . . it is necessary to become familiar with the unit's construction . . . and all of the important features . . . This article . . . with information supplied by the manufacturer . . . attempts to do this job by explaining in detail the various features . . . their construction and what they are designed to accomplish . . . In addition . . . there are suggestions and tips on how to maintain this projector mechanism so that it will be able to give a perfect performance day after day . . . It is a valuable aid to the projectionist and theatreman who will be working with this equipment.*

The Motiograph AAA projector mechanism has been designed for the projection of either standard of CinemaScope prints without changing shoes, sprockets, rollers or tracks. To further increase the flexibility and versatility of this mechanism, there are 10 different sizes of apertures allowable to give any desired aspect ratio.

Lens Holder

The lens holder has been designed to hold both 2-25/32 inch and four inch diameter lenses of any focal length. A seemingly small, but actually important feature, is that the lens holder is firmly attached to the mechanism housing on precisely spaced steel "V" rails. The advantage of this type of construction is that it prevents the picture from moving off the screen, as an assembly of prime and anamorphic lenses simply cannot wobble. The opening of the projector gate may be reduced from one inch to one-half inch. This feature, plus the wide front opening of the lens holder, assures maximum efficiency from lenses of even the shortest focal lengths.

The Motiograph mechanism is designed to make it possible for the projectionist to obtain the exact working distances between the reflector and the aperture that is required by all makes and models of projection arc lamps with 14, 16, and 18 inch mirrors.

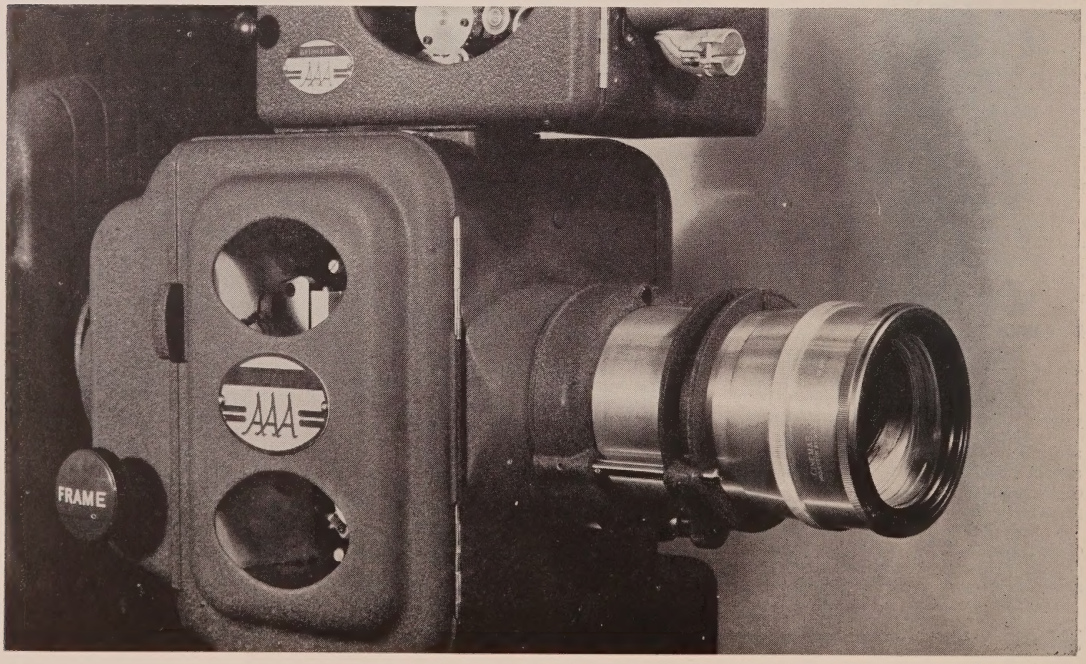
Another interesting feature of this AAA model is that it is the only American made projector to employ a barrel shutter. The barrel shutter cuts the light on a horizontal plane from top and bottom in same manner as do the lids of the human eye. In order to give the exact amount of screen illumination desired on large, medium, or small screens, these shutters are delivered with either 52 degree, 60 degree, or 72 degree blades. The openings in the heat baffles and shutter permit the fullest amount of usable light to reach the aperture.

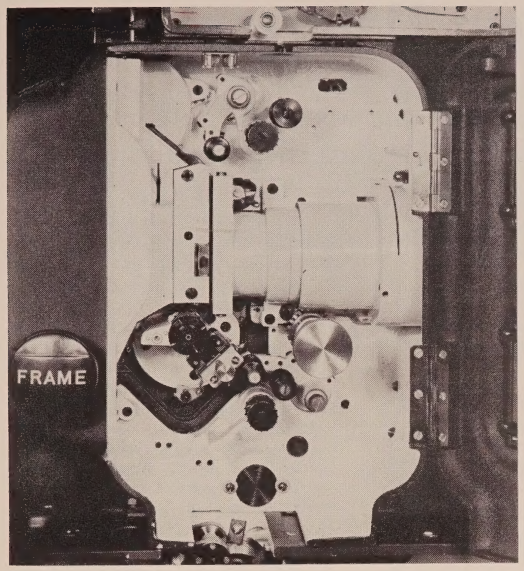
In working out the features of the improved AAA mechanism, thought was also given to the problem of threading. The exceptionally large housing gives more threading room than ever. What this means is that the projectionist's film threading problem is greatly reduced. By means of a lighted framing aperture, the projectionist can always get the picture in exact frame.

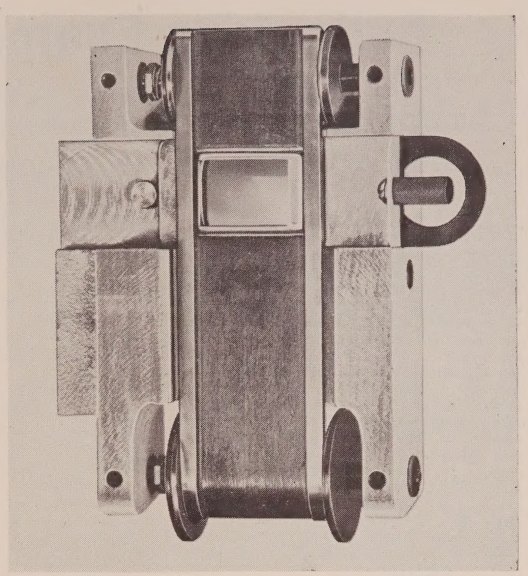
Ease of Focus

The gate has been constructed so that it can handle green, warped, or buckled film of any degree of thickness without causing an in-and-out of focus condition in the projected picture. This is accomplished by a variable shoe tension device which may be set precisely by the operator. All that is necessary is to move the shoe tension indicator to the desired tension, low, standard, or high.

The problem of side-to-side film motion is controlled exactly by guide rollers, which are located above and below the aperture, and which are self-adjusting to the width of the film. This film guiding arrangement is an exclusive feature of this mechanism.







THIS INTERIOR VIEW of the Motiograph AAA projector (left) illustrates the exceptionally large housing which gives the projectionist more threading room. The picture of the film gate (right) shows the removable aperture feature. The upper and lower guide rollers may also be seen in the photo.

Picture jump, another major headache to the projectionist, is reduced to a minimum by means of the patented method of affixing the intermittent sprocket to the star shaft, and the watch-like precision of workmanship of star, cam, and sprocket.

Aperture, tracks and shoes are changeable instantly so as to minimize the problem of a breakdown, and to assure the continuity of the performance. The intermittent movement can be removed from the operating side in a few minutes. The intermittent sprocket can be quickly changed or reversed without removing the movement. Still another feature which makes this unit flexible is the fact that the AAA is interchangeable with practically any projector mechanism, and without the necessity of purchasing new soundhead drives. Penthouse reproducers and upper magazines of virtually any make or model will fit the AAA projector mechanism.

Silent Operation

The silent gear train of the AAA is practically shock-proof and has a remarkable resistance to wear. Compressed linen gears run against hardened steel gears so that there is no metal-to-metal contact, eliminating many of the problems created by friction. No gear is required to do double-duty and each is "free-wheeling," as all gears run on double-row lubricated-for-life ball bearings. The stud-mounted gear and bearing assemblies are quickly removable should replacement ever become necessary. There is no messy oil bath to ruin optical sound lenses, or to dirty the film.

An outstanding feature of the AAA projector mechanism is the use of an upper magazine roller assembly where the rollers may be removed between reels. Since one of the greatst sources of film damage is dirty, sticking rollers, this device greatly reduces the danger of damaging a print.

The magazines used in the Motiograph AAA unit are available in 18 inch or 25 inch diameter, and are wider than conventional magazines, measuring 3⅞ inches deep. This extra width prevents scraping of bent reels against the magazine body. The upper magazine has a new, fully enclosed adjustable reel shaft tension device. This device, once the desired tension is set, can be permanently locked into position. The enclosed take-up on the lower magazine, when set at the proper adjustment, will remain as set over years of operation.

As mentioned before the AAA projector mechanism uses a gear train that is silent and smooth operating, but after a number of years of service an undue amount of back-lash may develop. One of the problems created by excess back-lash is travel ghost, which in some cases may require the use of large shutter blades, with the resultant loss of illumination. Another point to consider is the magnetic reproducer, if one is used. There should be a minimum of wear or back-lash in the projector gear train, especially as far as the motion of the upper feed sprocket of the projector is concerned. Any irregular motion or flutter in the movement of this sprocket will increase the amount of flutter elimination to be done by the sound filter system.

Maintenance Hints

The lubrication requirements for the AAA projector mechanism are not too great because all gears and shafts run on pre-lubricated bearings, which add considerably to the life of the mechanism. Since the intermittent movement is firmly sealed the danger of leakage is almost eliminated.

A feature which should make the keeping of the projector in good condition much simpler, is the ability of the film gate to open a full inch. This makes it possible to get at the tracks, shoes, and aperture for cleaning purposes without having to remove them. Of course these items can be removed easily when a more thorough cleaning or overhauling is necessary.

The upper and lower sprockets, which also can be easily removed, should be cleaned regularly with a stiff brush. When the teeth on the sprockets become badly worn they should be replaced immediately in order to prevent costly film damage. However, if the condition is not too serious, the sprockets may be reversed and still give satisfactory results.

The interior and exterior portions of the projector mechanism should be given a careful cleaning and dusting everyday to insure getting the maximum amount of trouble-free service. A lint-free cloth should be used. About once each year, or less, depending on the use given the unit, the projector should be completely disassembled, which is a fairly simple matter with AAA, and given a thorough cleaning to remove the grease, dirt, and oil which will usually accumulate despite conscientious daily care. A good solvent should be used and all parts carefully wiped clean when the job is done.

Although proper daily and periodic cleaning, and the prompt making of minor repairs will add months and even years to the life of a projector mechanism, it should always be remembered that when a major overhaul is called for, it should not be attempted by anyone but a trained mechanic who has the skills and the tools to do the job properly.

Ballantyne Equipment Maintenance

Important Suggestions on How to Operate and Maintain Ballantyne Projection Equipment in Order to Get Maximum Efficiency and Use

BRIEF: ***Since projection and sound equipment in conventional and drive-in theatres represent a major expenditure . . . it is only natural that the operator of a theatre should do all in his power to keep that equipment in proper working order . . . and maintained so as to get the maximum use out of this equipment . . . This article explains how it is possible to keep Ballantyne projection and sound equipment in tip-top working order . . . There are hints on cleaning and oiling of the projector . . . arc lamp care . . . how to keep rectifiers and generators at their peak efficiency . . . care and maintenance of drive-in speakers . . . etc. . . . Some of the information found here could save the reader a great deal of time . . . tempers . . . and dollars.***

By E. J. NELSON
Development Engineer, Ballantyne Co.

Ballantyne sound and projection equipment represent a fine achievement in precision manufacturing, designed to give the finest in quality projection, coupled with outstanding sound reproduction. It will faithfully reproduce all that the director, actor, author, photographer, and production personnel have strived so hard to achieve.

Efficient Maintenance Important

The reaction and pleasure of the audience is dependent entirely on the adherence to efficient maintenance of equipment, along with top projection practices. The projectionist has the key position in film presentation, and the following is set forth as a guide to be followed in maintaining the high degree of efficiency and standards for which members of the theatre industry are so justifiably proud.

Increased Skill Required

New techniques introduced in the past few years, and those to come, are constantly requiring increased skill and more constant attention to flawless projection. For example, the middle-size theatre, comprising the majority of the total number of theatres in operation, formerly projected a picture about 18 feet wide. This figure represented a magnification factor of approximately 262 times, which means that movement of the film 1/1000 of an inch out of standardization would show on the screen .026 of an inch. This amount is not perceptible to the eye. By today's standards, the average screen is roughly 35 feet wide. As a result, the magnification factor has been increased to 509, which means than an error of 1/1000 of an inch now appears on the screen as one-half inch, and this amount is perceptible.

This figure becomes astounding in most drive-in theatres where screens are now near the 100 foot mark, making the magnification factor 1,454 times.

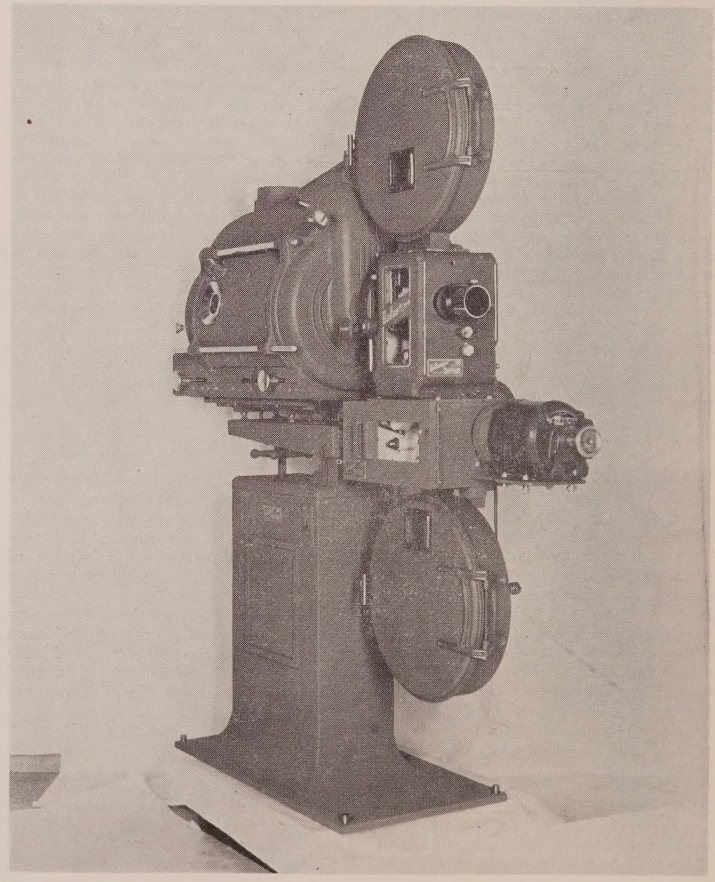
Dirt an Enemy

The number one enemy of projection is dirt. Every projection room must be maintained to a much higher degree today than ever before. Once your projection equipment becomes dirty, cleaning it becomes a major problem.

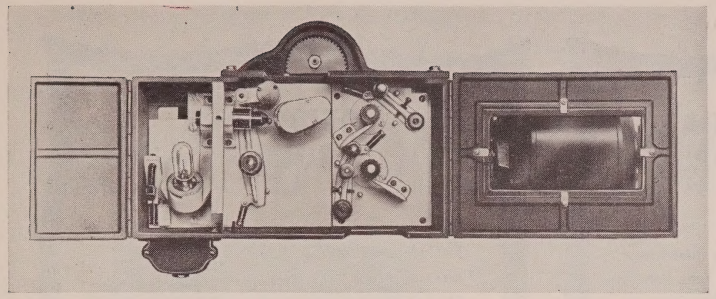
Simple steps with simple tools, taken regularly every day, will keep your projection equipment spotless and materially increase its life. Cleaning and oiling time can be but a matter of a few minutes when done regularly.

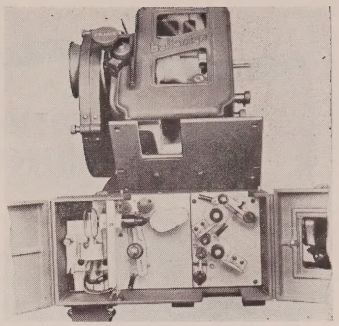
The following are some suggested points to remember when cleaning and oiling projection equipment:

1. **Blow lint and dust from lateral guide rollers and fire valve roller daily.**
2. **Use small paint brush to clean the film side of the projector and soundheads every performance.**
3. **Brush all the sprockets and pad roller at least once every performance with a stiff typewriter brush or tooth brush, brushing around the roller grooves as well as across all sprocket teeth.**
4. **Oil the side of the projector with an eye dropper. One drop of oil every few days is sufficient for oiling film side of projectors and soundheads.**



IN ORDER to get the maximum amount of use and service out of this Ballantyne projector, it's necessary to give the unit proper daily care.





THE SOUND Head (above) should receive one drop of oil each week, and the oil level should be kept one-quarter inch from top when not in operation. A chamois on a stick is fine for cleaning optical lens.

5. **Wipe off all excess oil regularly. Excess oil gathers dust and soon becomes an abrasive rather than a lubricant.**
6. **Wipe film tray and gate at least twice a performance. It is important to keep the film path spotlessly clean.**
7. **Never clean a projector while it is running.**

Rectifiers

Ballantyne rectifiers are easily installed and maintenance is negligible, other than keeping the rectifier clean, and the tube contacts bright. Four rules, if followed carefully, should insure maximum efficiency:

a) Never combine old tubes and new tubes.
b) Keep tube contacts and sockets clean, and tubes screwed firmly into the sockets.
c) Separate carbons quickly on striking arc.
d) Permit a warm-up of 30 seconds before striking the arc.

Generators

Ballantyne generators are practically self-sustaining and need little attention, other than maintaining cleanliness.

For lubrication, each bearing should receive one ounce of grease every six months. Always keep the grease cups clean. Once a month check all connections to make certain they are tight.

Replace the brushes when they wear to one-half their original length. New brushes should be shaped to fit the curvature of the armature.

Arc Lamp

The finest maintenance for an arc lamp is cleanliness. The only oiling necessary is to the controls; one drop once a week. The inside of the Ballantyne lamp should always be keep spotlessly clean. Carbons create a white powdery substance and unless kept from the lamp, this dust bakes onto the parts creating a cutting or grinding compound. The resultant screen light will be in proportion to the cleanliness of the reflector.

Drive-in Speakers

It has been proven that vandalism of drive-in speakers will run in direct proportion to the amount of field maintenance. When a customer is forced to listen to a defective or rattling speaker his reaction is very often, "I'll fix it so they will have to repair it." He then proceeds to damage the speaker to force its repair.

Ease of maintenance, coupled with excellent sound quality, and simplicity of assembly, is the foundation of the design used in Ballantyne's Dub'l cone speaker. Replacement of cones is so simple that it takes only a few minutes time for even one who is inexperienced. The only tools required are a screw driver, and the repairs are made at the speaker post.

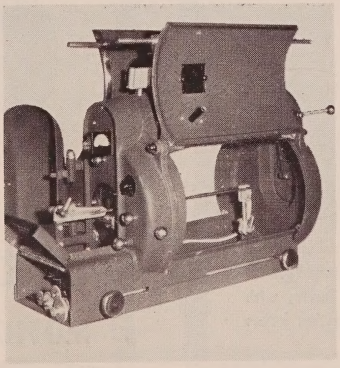
In order to replace the cone simply open the case by removing three screws. Then remove the damaged cone, drop in a new one and close the case. There is no need for alignment or thickness gauges as each part fits into its place and the speaker mounts on alignment pins. It is held into place by a fixed spring, making movement impossible, and eliminating the internal screw or nuts. The cone is self-sealing against the elements by neoprene seals.

Ballantyne MX and RX amplification systems are designed exclusively for drive-in theatre operation. They are made for outdoor theatre use and cannot be used in conventional houses.

Installation of these amplification systems have been simplified and maintenance requires a minimum of time, with the most important thing to remember is to keep the equipment clean and the terminals tight.

All ramps are wired to ramp switches. Each switch has three positions, on, off, and test. When off, load resistors are automatically connected to balance the field load. Any field short is quickly isolated by merely throwing each ramp into test position. Any short will cause a surge in volume over the monitor speaker.

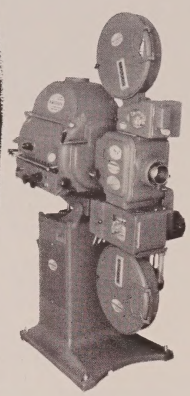
IN CARING for Ballantyne rectifiers old and new tubes should never be combined, and tube contacts and sockets should be kept very clean.



THE FINEST maintenance for the Ballantyne arc lamp is cleanliness, and the insides of the lamp should always be clean for top efficiency.

THE Ballantyne Dub'l cone speaker is simple to maintain, and all repairs may be made at the speaker post. The cone employed is self-sealing.

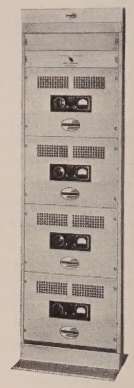
THE NEW MOTIOGRAPH AAA PROJECTOR



Instantaneous interchange of apertures. Lens barrel, with no modifications, accepts lenses of all focal lengths and diameters. Anamorphic lenses quickly installed without adjustment. Cinemascope or conventional prints run without changing sprockets, shoes or tracks. Many exclusive features.

MOTIOGRAPH SOUND

For indoor and outdoor theatres of every size. Single track optical, single track magnetic. Perspectasound, three and four channel stereophonic systems. Can be matched to any presently installed equipment. Afford the best balanced, most complete tonal range.



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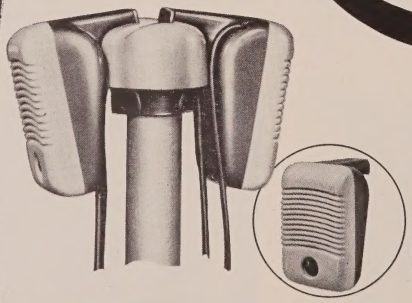
MOTIOGRAPH *Inc.*

"Since 1896"

4441 WEST LAKE STREET
CHICAGO 24, ILLINOIS

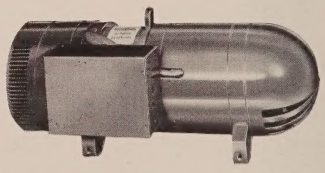
The World's Oldest Manufacturer of Theatre Equipment

MOTIOGRAPH IN-CAR SPEAKERS



The DeLuxe Plastic . . . the only speaker with a full 5″ unit. The Rainmaster, the only speaker unit with a raincoat. The Economy Series, with full 4″ unit, as low as $5.50. Junction boxes as low as $4.50.

MOTIOGRAPH HI-POWER GENERATORS

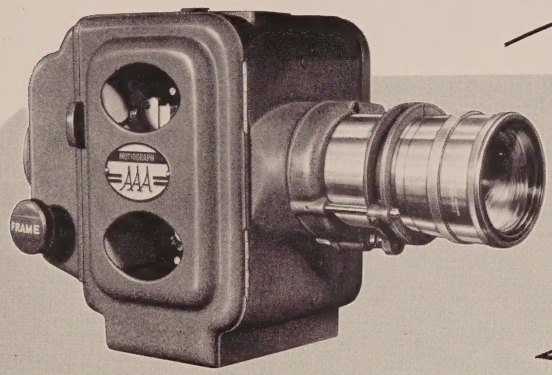


A dependable power source for arc lamps.

TYPE	CURRENT	VOLTAGE
70/140	46-70	27.5-40
125/250	75-125	38-65
160/320	115-160	55-78

ALSO MOTIOGRAPH RECTIFIERS

The AAA Settles the Question of
WHICH PROJECTOR TO BUY



Before you buy any projector consider the features that make the Motiograph AAA truly advanced equipment— an example of perfection in engineering.

PROJECTS STANDARD OR CINEMASCOPE PRINTS, without changing shoes, sprockets, rollers or tracks, Apertures in ten ratios.

HIGHEST EFFICIENCY WITH 2-25/32" and 4" DIA. LENSES, ANY FOCAL LENGTH, any make. Lenses held firmly to the housing on "V" rails. The picture stays on the screen.

PERMITS CORRECT WORKING DISTANCE between aperture and 14", 16" or 18" mirror of new type arc lamps.

BRIGHTEST PICTURES on screens of any size. Barrel shutter (available with 52°, 60° or 72° blades) and heat baffle openings pass maximum light. No flicker or travel ghost.

MOST THREADING ROOM OF ANY PROJECTOR. Film gate opens full inch. Lighted framing aperture.

NO IN-AND-OUT FOCUS CONDITION. Variable shoe tension instantly adjustable to green, warped or buckled film of any thickness.

THE ONLY PROJECTOR WHICH CONTROLS FILM SWAY. Guide rollers self-adjust to film width.

ROCK-STEADY PICTURES assured by Motiograph's patented method of affixing intermittent sprocket to star shaft, and precision-made star, cam and sprocket.

PARTS CHANGEABLE BETWEEN REELS—aperture, tracks, shoes, upper magazine rollers. Intermittent movement removable from operating side. Intermittent sprocket reversed without removing assemblies. Quickly removable stud-mounted gear and bearing assembly.

INTERCHANGEABLE WITH PRACTICALLY ANY PROJECTOR MECHANISM. No new soundhead drives required. Accepts virtually all penthouse reproducers and upper magazines.

QUIET RUNNING, compressed linen gears against hardened steel. No metal to metal, hence unbelievably long service. Run on double-row lifetime-lubricated ball bearings.

PARTS AVAILABLE AT LEAST 20 YEARS. That's Motiograph policy.

COOL OPERATION. Water cooled gates and aperture cooling blowers optional.

Your Motiograph dealer will gladly demonstrate the AAA—the finest projector in history. He has a liberal financing plan. Write today for literature.

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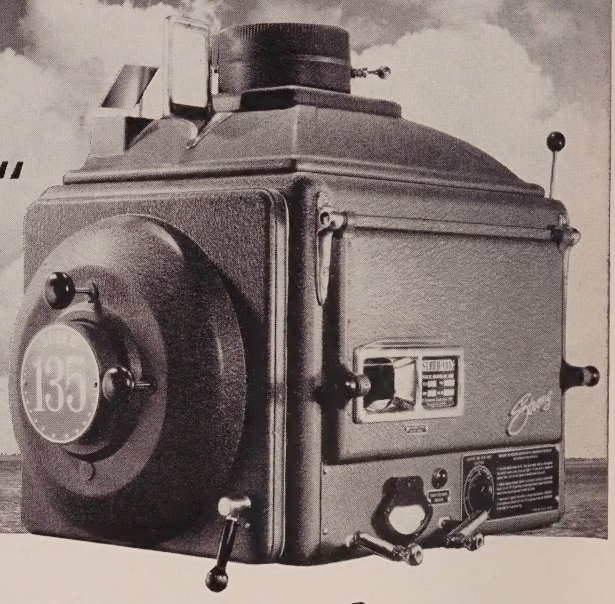
The All-Time Great Projection Arc Lamp

Strong SUPER "135"

These modern lamps, with all their exclusive features are your guarantee of superlative presentation . . . . brightest pictures.*



USERS KNOW FROM EXPERIENCE THAT Strong LAMPS GIVE THEM MORE LIGHT VOLUME PER CARBON TRIM

★ Infra Ban Beam Cooler diverts heat rays from the aperture. Removable holder permits easy cleaning.

★ Filter cooled by separate blower.

★ Reflector and frame cooling device.

★ 18″ f 1.7 or 16-1/2″ f 1.9 REFLECTOR.

★ Long-life positive carbon contact.

★ Exclusive Lightronic system automatically maintains the correct position of the positive arc crater at the EXACT focal point of the reflector. A perfect light, evenly distributed, of constant intensity and unchanging color value, is maintained WITHOUT MANUAL ADJUSTMENTS.

★ Burns a choice of four carbon trims (9, 10, or 11mm regular, and 10mm Hitex) to attain any desired degree of cost of operation, screen illumination, or burning time. Quick, simple changes attain the correct light requirements for VistaVision, CinemaScope, Cinerama, or any other presentation technique —even two or more on the same program. A TRULY ALL-PURPOSE LAMP!

★ Single control amperage selection.

★ The arc is stabilized by its own magnetic field (no magnets are required) and by an air jet which prevents deposit of soot on reflector.

★ Unitized component design.

★ Water-cooled carbon contact assembly. (Optional).

★ *Proven by impartial foot-candle-meter tests.*

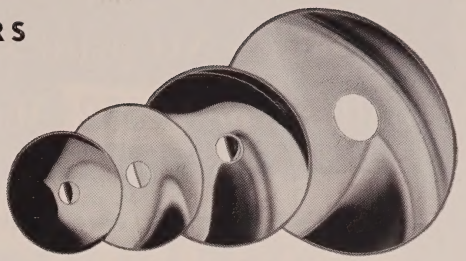
THE STRONG ELECTRIC CORPORATION

"The World's Largest Manufacturer of Projection Arc Lamps"

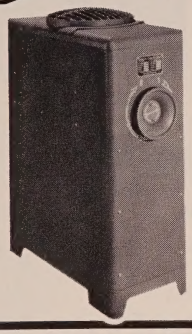
87 CITY PARK AVENUE **TOLEDO 2, OHIO**

Strong PRECISION REFLECTORS

Types and sizes for use in all standard projection arc lamps



Strong HEAVY-DUTY SELENIUM PLATE RECTIFIERS



Single- or three-phase models for efficient operation with CinemaScope, VistaVision and all drive-in presentation. Assure smooth output current, long life, low operating temperature, and flexibility in control. Requires no attention or maintenance. Dependable operation even in damp climates.

125-180 Ampere high-power rectifier for use with 13.6mm regular, or 10, 11 and 13.6 Hitex carbons.

90-135 Ampere rectifier for use with 10mm and 11mm regular, or 10mm Hitex carbons.

80-120 Ampere for use with 9mm, 10mm or 11mm carbons.

70-90 Ampere for use with 9mm carbons.

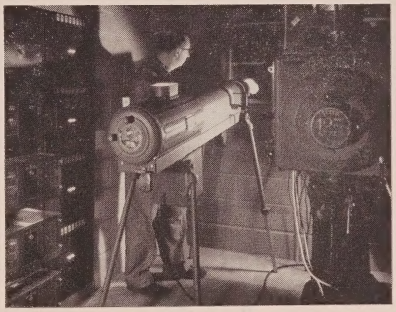
60-75 Ampere for use with Suprex type carbons.

All models may be used with angular or coaxial trim lamps.

Stacks carry a 3-year guarantee.

Strong UNIVERSAL HIGH INTENSITY ARC SLIDE PROJECTOR

Projects brilliant full screen pictures. Ideal for projecting advertising slides, special announcement doctor calls, coming attraction advertising and concession promotion. Comes complete with objective lens, blower, slide carrier, power transformer, arc lamphouse with motor-fed carbons and four adjustable legs.



Strong
TROUPER ARC SPOTLIGHT
with adjustable self-regulating transformer in base

Strong SPOTLIGHTS

Project a brilliant, flickerless spot — sharp edged from head to flood. Two-element variable focal length objective lens system. Horizontal masking control angles 45° in each direction. Fast operating 6-slide color boomerang. Plug into any 110-volt outlet. Fully automatic.

Strong
TROUPERETTE INCANDESCENT SPOTLIGHT

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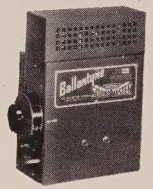
There's NO print shortage *when you have a* Ballantyne 4452 Magnetic Reproduction System

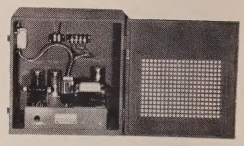
So LOW in cost every theatre can afford it!

Reproduces from four tracks or one track magnetic. Used in combination with your present power amplifier and stage speaker system. Quick changeover so that you can reproduce optical sound as well. Install it without having to enlarge your present booth. Equipment is compact. Both pre-amplifier and power supply can be wall mounted.

SX-400 Magnetic Sound Reproducer. A compact, precision-built mechanism.



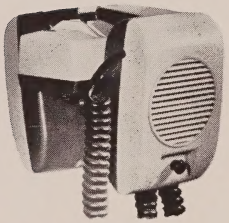
SX-454-455 Pre-Amplifier. Mounts on front wall of projector booth, between projectors. Compact unit complete with volume control and changeover switch.



SX-452. Power supply for the pre-amplifier can be mounted any place in the projection room for convenience.

For BOTH Indoor and Drive-In Theatres

Compare and *you'll agree* on Ballantyne



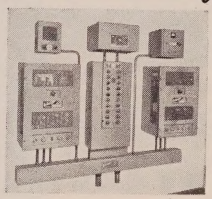
Ballantyne Dub'l-Cone In-a-car Speakers. A new standard of drive-in sound by lowering speaker resonance for improved low frequency reproduction. Die-cast aluminum case.

"A" Series Dub'l-Cone. Undercoat toughened under 350 degrees, finish coat is long-lasting blue and white enamel baked on at 250 degrees.

"Q" Series Dub'l-Cone. Same speaker unit as "A" series. Finish is a rich, long-lasting Hammerloid Grey baked on at 250 degrees.

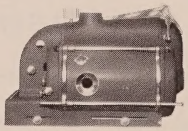
"E" Series Single Cone. High quality unit, using same die-cast aluminum case as the Dub'l-Cone. Treated to resist moisture as well as heat. Tough Hammerloid Grey finish.

"H" Series Single Cone. Low cost, quality speaker housed in sturdy sand-cast aluminum case finished in two-tone grey enamel.



Ballantyne Royal Soundmaster MX Amplification System

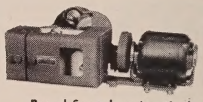
This has been designed by Ballantyne specifically for drive-ins to produce the most economical, yet the most efficient, method of handling drive-in theatre amplification.



Lightmaster Model 4570 hi-intensity Arc Lamp

Meets the demands by drive-in theatres for more and better light. It projects a steady, brilliant, uniformly distributed white light over the screen.

Royal Soundmaster Model 6 Soundhead.



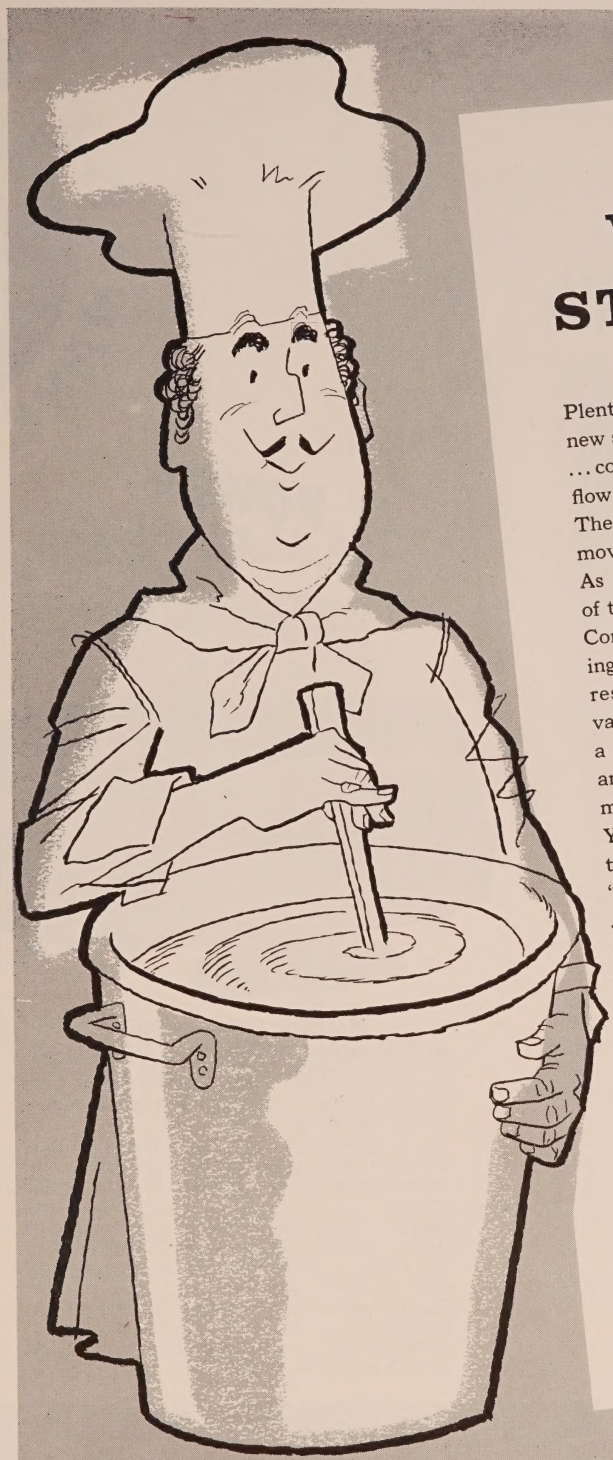
Royal Soundmaster Model 9 Soundhead.

Royal Soundmaster Soundheads have proved themselves through the years to be the finest sound reproducers available. They embody such important features as an all-gear projector drive with alternate steel and fibre gears that assure smooth, quiet operation. They also have a fully perfected optical system and an isolated sound feed sprocket which provides speed constancy and smoothness in film travel.

Complete Ballantyne Equipment for Drive-Ins Includes —

Ramp Control Panel
Projectors
Projector Bases, Hi-Tilt
Magazines
Rewind Tables
Film Cabinets
Alumium Reels
Film Splicers
Reel End Alarms
Cast Aluminum
Directional Signs
Projector Changeovers
Rectifiers or Generators
Electric Automatic Rewind

1712 Jackson St. **The Ballantyne Company** Omaha, Nebraska



WHAT'S STIRRING?

Plenty! New projection techniques . . . new sound techniques . . . more research . . . constant improvement . . . a quickened flow of new ideas and concepts.

These are signs of an industry on the move!

As one of the foremost representatives of this industry International Projector Corporation is right at the fore — meeting progress with progress, research with research. At every technological advance, IPC is right there — converting a new theory, a new development into an efficient, practical method of showmanship.

Yes, there's plenty cooking in the motion picture industry today — and "Simplex" is in there where it's hottest . . . working round the clock to give you better, more dependable projection and sound systems.

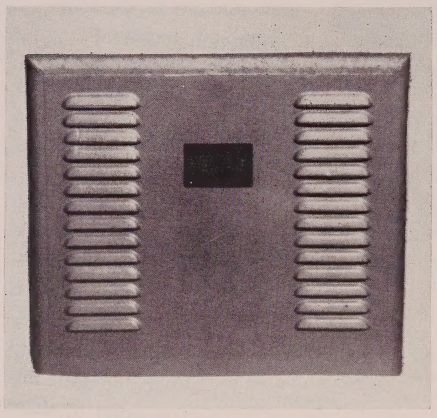
Simplex

PROJECTION AND SOUND SYSTEMS

MANUFACTURED BY INTERNATIONAL PROJECTOR CORPORATION • DISTRIBUTED BY NATIONAL THEATRE SUPPLY

SUBSIDIARIES OF GENERAL PRECISION EQUIPMENT CORPORATION

The AMAZING
"ROBIN RO-RO"



ALLOWS OPERATION OF STANDARD 3-PHASE RECTIFIERS FROM SINGLE PHASE SUPPLY

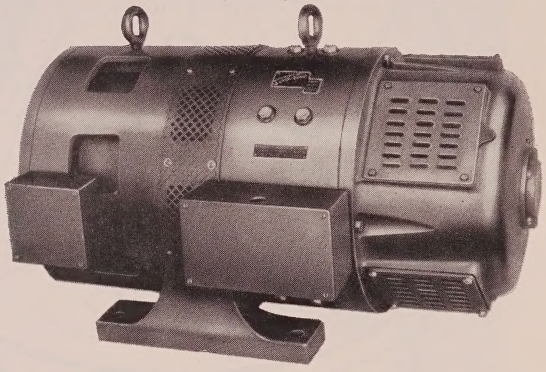
The "Robin Ro-Ro" is an important accessory to rectifier operation where only single phase AC current is available. "Robin Ro-Ro" allows the efficient operation of standard three phase rectifiers from a single phase supply. These auxiliaries produce true three phase power with balanced currents and symmetrical voltages from single phase power, eliminating the need for costly three phase power line extensions.

BALLAST RHEOSTATS FOR ALL SIZES
——————ALL RATINGS

J·E·ROBIN ★ MARK OF

POWER with a PLUS!

ROBIN-ESCO "Super-power"



MOTOR GENERATORS

The ROBIN-ESCO "Super-Power" motor generator, especially built for motion picture projection, is the ultimate in modern power-conversion equipment.

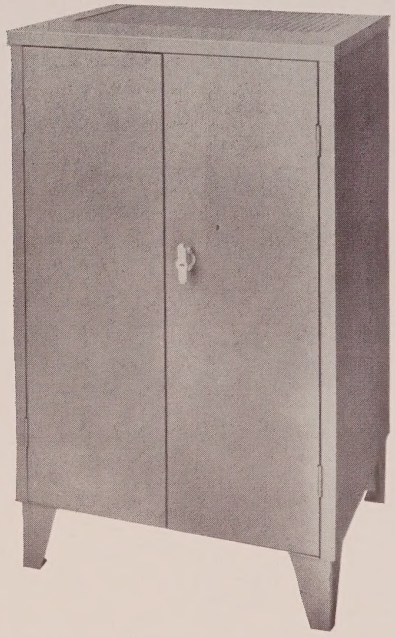
"Super-Power" is the (dependable) motor generator built to meet the maximum power requirements of any wide screen projection system.

"Super-Power" is engineered for operation on a continuous basis and is available in 60 volts — 145 amperes, 80 volts — 135 amperes and all other standard ratings.

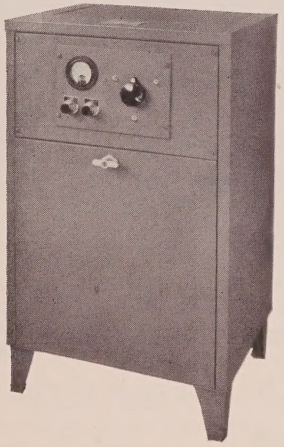
Theatres and drive-ins recognize the quality and performance of "Super-Power" as the dependable, unfaltering power source necessary to meet modern projection practices.

J. E. ROBIN, INC.

"ROBIN-ARC"
SELENIUM RECTIFIER



NEW
ROBIN "VARI-ARC"



SELENIUM MAGNETIC AMPLIFIER PROJECTION ARC RECTIFIER

Types: MAK 100-200-2000; AMPS. 100-165-185.

Now available, the new Robin "Vari-Arc" Selenium rectifier marks one of the greatest advances in power supplies for old and new projection lamps of all ratings.

The Robin "Vari-Arc" affords infinite adjustments while the lamp is in operation. These adjustments are so simple they require only "finger-tip" control. Perfect light is thus assured; perfect light at the arc means a bright picture on the screen. The Robin "Vari-Arc" is a must for progressive motion picture theatres, closed or drive-in types.

"Robin-Arc" projection rectifiers are the ultimate in design, quality and performance. The high reactance of the "Robin-Arc" rectifiers assures low short circuit current, guaranteeing less sputtering, pitting, improved crater, carbon economy, longer useful life of mirrors and better performance. Their life is almost unlimited and maintenance is negligible.

All "Robin-Arc" Selenium rectifiers are built for service from 190 to 250 volts, and are rated for full load continuous output.

267 RHODE ISLAND AVENUE, EAST ORANGE, NEW JERSEY

CABLE ADDRESS: JEROBIN, U.S.A.

WHAT DOES

MEAN TO YOU?

To experienced theatre owners and operators, this seal has a far greater meaning than that of a mere trademark. To them, it is a guarantee . . . a stamp of integrity and reliability . . . an assurance of consistent quality and outstanding service.

It stands for skill, know-how and almost 30 years of experience! It stands for quick, careful attention to every theatre's needs regardless of size! It stands for pioneering, initiative and ingenuity!

This seal, in other words, is a symbol of everything NATIONAL THEATRE SUPPLY stands for. Its meaning is of vital significance to you!

NATIONAL THEATRE SUPPLY

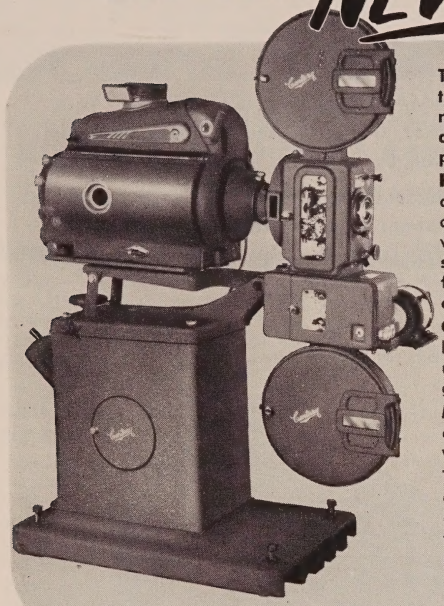
29 Branches Coast to Coast

Century

PROJECTION AND SOUND SYSTEMS

Having trouble getting good pictures?

TRY THE *NEW* CENTURY PROJECTOR



The NEW CENTURY projectors have more *desirable features* than any other equipment. You will find no "gadget improvements" on CENTURY equipment — everything is scientifically arrived at — to give you *full dimensional* reproduction of picture and sound, with trouble-free operation.

HIGH EFFICIENCY MECHANISMS. CENTURY projectors require almost no maintenance. They contain fewer parts (10 gears where others require up to 23) in simple arrangement so that stress and wear are at a minimum. NEW main drive shaft eliminates pinion and stud unit of soundhead coupling. Provides a more positive trouble-free drive. Fewer gears and shafts mean less trouble, lower maintenance, less vibration, sharper pictures . . . finer projection.

CLEAN, TROUBLE-FREE OPERATION. CENTURY has reduced lubrication headaches. There are no oil sprays or oil baths to mess up film and projection room. Oil-less bearings and glass-hard steel gears rule out bindups.

MAXIMUM LIGHT PROJECTION. NEW light shields designed to accommodate latest high-intensity arc lamps.

WATER-COOLED PROJECTOR APERTURE. An exclusive CENTURY development. NEW non-condensing, slide-in water-cooled aperture easily changeable for all screen dimensions. Optional equipment on all CENTURY projectors. It increases screen illumination and reduces film distortion and focusing trouble.

NEW LENS MOUNT with adapters for all standard lenses, large and small. The mount incorporates an easy-focusing device for high speed lenses.

Century

ENGINEERED SOUND SYSTEMS - STANDARD AND STEREOPHONIC are designed to meet your needs — present and future. They give you the best that modern science can offer.

UNIT PRINCIPLE DESIGN. Each CENTURY installation can be selected to meet the physical or financial requirements of any theatre or drive-in.

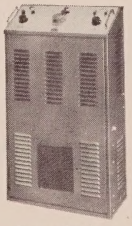
AWARD-WINNING SOUND QUALITY. CENTURY sound reproducers feature the famous *hydro-flutter suppressor,* exclusively — winner of an Academy Award because it is a "fundamental improvement in film drive" and "results in improved quality in the theatre". (Citation of the Academy of Motion Picture Arts and Sciences). CENTURY sound has unusually high fidelity due to the low flutter obtainable with CENTURY sound reproducers.

SIMPLIFIED OPTICAL SYSTEM. CENTURY sound reproducers employ a high-efficiency straight-through optical system. No mirrors or prisms to fog or tarnish. Amplification requirements and noise interference are reduced.

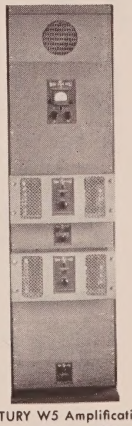
MECHANICAL ADVANTAGES. Quick threading; oil-less bearings; interchangeable unit construction, simplified service; standarized design for use with any standard make of projector or pedestal.

CENTURY STEREOPHONIC SOUND — another brilliant new design achievement by CENTURY. The whole system except for penthouse reproducers and stage speakers is contained within one medium sized permanently wired enclosure. It is simple to install, operate and service. This system possesses wide flexibility for any magnetic sound presentation and contains ample facilties for conversion to future needs. Single or multiple-track reproduction.

CENTURY W5 Amplification System with D.C. Exciter Supply



Stereophonic 3 or 4 channel amplification unit



CENTURY W5 Amplification System — 200 — 400 watts (Duo power Amplifiers Rack Mounted)

See your CENTURY dealer or write:

CENTURY PROJECTOR CORPORATION
NEW YORK, N. Y.

Century

No lamp in the World!

CAN PRODUCE SO MUCH LIGHT.

Peerless HY-CANDESCENT TRADE MARK REG

CINEARC

***NOT* A REFLECTOR ARC!**

WRITE FOR DATA

Peerless MAGNARC TRADE MARK REG

CINEARC

A 75-77 AMP. REFLECTOR ARC!

22,000 TOTAL LUMENS

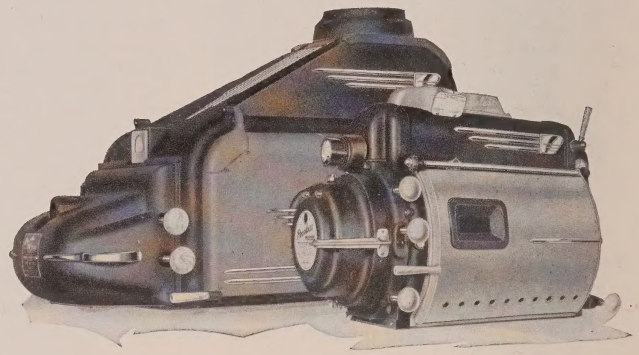
PROOF

Hy-Candescents were selected for all important "CINERAMA" installations. (Chicago, New York, Los Angeles, San Francisco, Philadelphia, and Washington, D. C.)

Hy-Candescents were chosen by Paramount for all Installations of Horizontal "VISTA-VISION."

Hy-Candescents were again selected by TODD A-O for "OKLAHOMA."

You have to do the same if you want all the light there is for big pictures.



At 75-77 amperes . . . With presently available and standard 8 x 9 m/m copper coated carbons . . . With a .715" x .912" "CinemaScope" aperture . . . With a 3" Focus, F-1.8 coated projection lens . . . With a 14" diameter No. 2012 PEERLESS "Hy-Lumen" glass reflector that retails at a list price of $22.00 F.O.B. Chicago . . . With a No. 2880 PEERLESS Tail Flame Flue . . . On any kind or any size screen . . . No Heat Filter required.

All of this, at the lowest possible first, and operational cost. And ——————

NO-HIGH-RATE

OF ($60.00) REFLECTOR BREAKAGE AND SILVERING DETERIORATION — OR HEAT FILTER UPKEEP.

!

J.E. McAULEY MFG. CO.

552-554 WEST ADAMS STREET

CHICAGO 6, ILLINOIS

A SUBSIDIARY OF GENERAL PRECISION EQUIPMENT CORPORATION

THE AMAZING **NEW**

ASHCRAFT SUPER CINEX

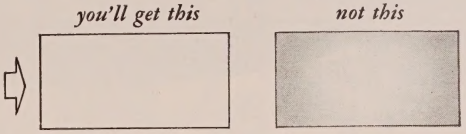
UNLIMITED LIGHT— NORMAL RANGE 50,000 LUM.

There is no other lamp that can even approach the light producing qualities of the SUPER CINEX.

SUPER CINEX Is The First and Only Lamp Which Will

1—Project more light than can be used under present conditions of film and projector development. Any part of this enormous light may be used.

2—Project perfectly distributed light from side to side on any size screen.

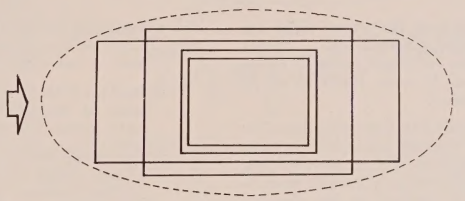


SUPER CINEX Is The First and Only HIGH Brightness Lamp for Any Aperture and Film Width

1—Whether the film be 35 mm or 70 mm, SUPER CINEX projects far more total light with much less "Fall Off" on the sides than has ever before been possible.

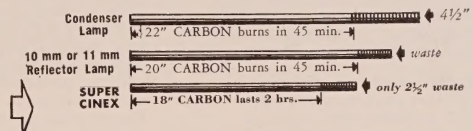
2—SUPER CINEX is the first and only lamp where the point of maximum light coincides with maximum distribution. This is a product of *increased brightness through perfected optical efficiency*.

3—Diagram at right indicates the enormous encompassing power of the SUPER CINEX light beam.

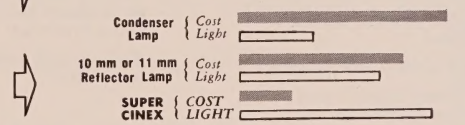


A PARADOX...

While we strongly stress *light first* and operating costs secondly, it is a fact that the SUPER CINEX is one of the most economically operating high intensity projection lamps ever designed. The average carbon consumption in all other high intensity lamps is 19 to 22 inches per hour. SUPER CINEX reduces this to from 6 to 10½ inches per hour. *No special high cost carbons are used*, only the most common grade.



The power consumption is also unbelievably low. Condenser type lamps using 180 amperes with special high cost carbons consume 23 KVA, or more with far less light output, resulting in an hourly cost for carbon and current of $1.60 or more. The SUPER CINEX, when used with our new Multiphase rectifier, reduces this cost to approximately 42c, with an enormous increase in light.

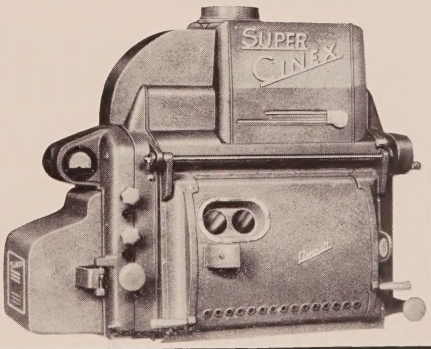


One 18-inch carbon will last from 1¾ to 2⅓ hours, depending upon the light requirements.

Truly—the SUPER CINEX is a lamp powerful enough for a 6,000 seat theatre and sufficiently economical for a 700 seat theatre.

The New ASHCRAFT Multiphase Rectifier

This new, powerful — highly efficient — heavy duty Selenium rectifier has been designed specifically for the new SUPER CINEX. Extraordinarily smooth in direct current output, with a very high factor of safety, assures perfect projection and long life. No effort and expense have been spared to make this the finest rectifier ever designed for precision motion picture projection. A perfect companion for a perfect projection lamp.



Money Can't Buy These Ashcraft Features in Any Other Lamp!

U.S. Distribution through INDEPENDENT THEATRE SUPPLY DEALERS • Foreign: WESTREX CORPORATION • Canada: DOMINION SOUND EQUIPMEMTS, LTD.

C. S. ASHCRAFT MANUFACTURING CO., INC.

36-32 THIRTY-EIGHTH STREET, LONG ISLAND CITY 1, NEW YORK

Treat Your Patrons to a Real Picture . . .

It's good screen lighting that you want when you buy projection arc lamps. You don't have to be a projection lighting engineer to see the improvement in your projected picture when you install

EXCELITE "135"
PROJECTION ARC LAMPS

Here's why—

They project far more light for all projection techniques . . . burn a choice of four carbon trims (9, 10 or 11 mm regular, or 10 mm Hitex).

The Automatic Crater Positioning Control System insures that both carbons are so fed as to maintain a correct arc gap length and to keep the position of the positive crater at the exact focal point of the reflector. Screen light is always the same color, without variations from white to blue or brown.

A few of the reasons why the Excelite "135" is so popular with exhibitors and projectionists include:

- ★ **Long-life positive carbon contacts.**
- ★ **18″ fl.7 or 16½″ fl.9 reflector.**
- ★ **Ventilated reflector and reflector frame.**
- ★ **Correct amperage selection by a single control.**
- ★ **Unit construction. Permits easy removal of elements for inspection in servicing.**
- ★ **Reflect-O-Heat unit. Reduces heat at the aperture. Removable holder cooled by blower.**
- ★ **Arc stabilization by a stream of air which maintains a prescribed system of ventilation of the area surrounding the arc. This air jet prevents the hot tail flame of the arc from reaching the reflector, supplies enough oxygen so that no black soot is produced, and keeps white soot from collecting on the reflector in such quantities as to absorb heat which would cause breakage.**
- ★ **Water-cooled carbon contacts (optional).**

NATIONAL REFLECTORS

The brilliancy of your projected pictures, regardless of the efficiency of all other equipment, is dependent directly upon the condition of your lamphouse reflector. The only light which can reach your screen must necessarily be reflected to it by this mirror.

All reflectors gradually deteriorate to a state where replacement cost becomes insignificant, since a drop of only 10% in their reflective efficiency results in a corresponding decrease in screen brilliancy, and carbons.

Available for replacement in all types and makes of arc lamps.

NATIONAL Selenium Plate RECTIFIERS

A full metallic, heavy duty equipment for efficiently converting single phase or three phase A.C. to D.C. for operating projection arcs. All may be used with angular or coaxial trim lamps.

125-180 Ampere high-power rectifier for use with 13.6 mm regular, or 10, 11 and 13.6 Hitex carbons.

90-135 Ampere for use with 10 mm and 11 mm regular, or 10 mm Hitex carbons.

80-120 Ampere for use with 9 mm, 10 mm or 11 mm carbons.

70-90 Ampere for use with 9 1m carbons.

60-75 Ampere for use with Suprex type carbons.

Wide range power output adjustment while the arc is burning, is by means of hand wheel on the front. Transformer taps are provided to compensate for changes in line voltages from 200 to 250 volts and the complete amperage range. Reliable operation in damp climates. Fan ventilated. No warm-up period required. A three-year sliding scale guarantee on rectifier stacks is applicable whenever stacks become inoperative for reasons other than neglect or abuse.

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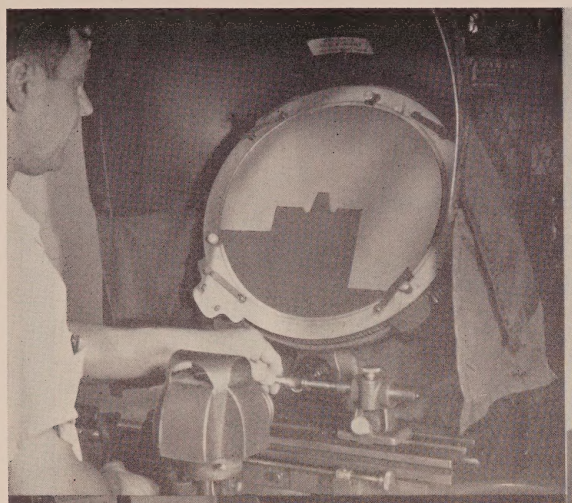
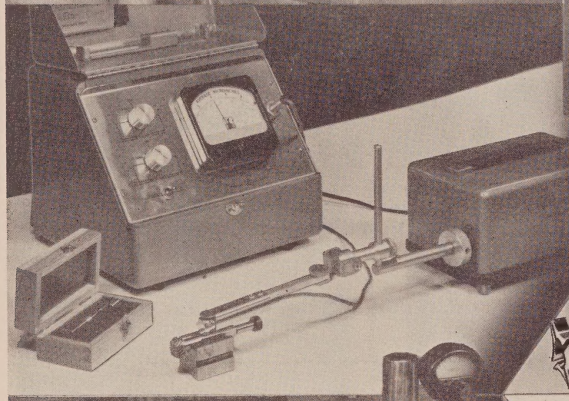
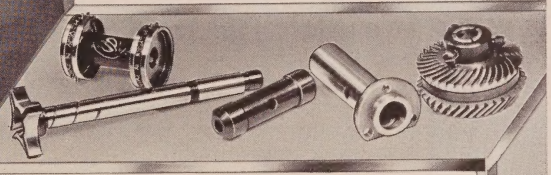
A SUBSIDIARY OF GENERAL PRECISION EQUIPMENT CORPORATION

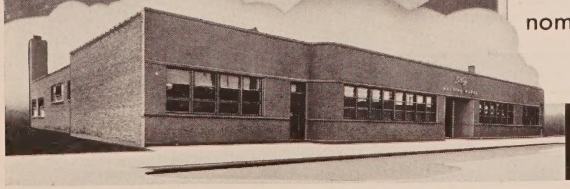


LaVezzi

Here is Perfection!







LaVezzi parts are unsurpassed for accuracy and long life! Only the finest materials are used and during manufacture they are subject to many inspections — size — hardness — surface finish. The end product is the best your money can buy — and the most economical in the long run.

SINCE 1908

LAVEZZI MACHINE WORKS
4635 WEST LAKE ST. CHICAGO 44, ILL.

FACE THESE *Facts* ON...

WALKER *High Intensity* SCREENS

FACT... The wavy, contoured surface of the High Intensity Screen distributes light perfectly, giving new range and depth to all films.

FACT... The High Intensity Screen provides sharp definition with no "hot spots."

FACT... The High Intensity Screen will not darken, discolor, or lose its reflectivity.

FACT... The High Intensity Screen is seamless — molded in one piece over a reinforced backing.

FACT... The High Intensity Screen makes cleaning easier by eliminating sharp sound holes which collect dirt and dust.

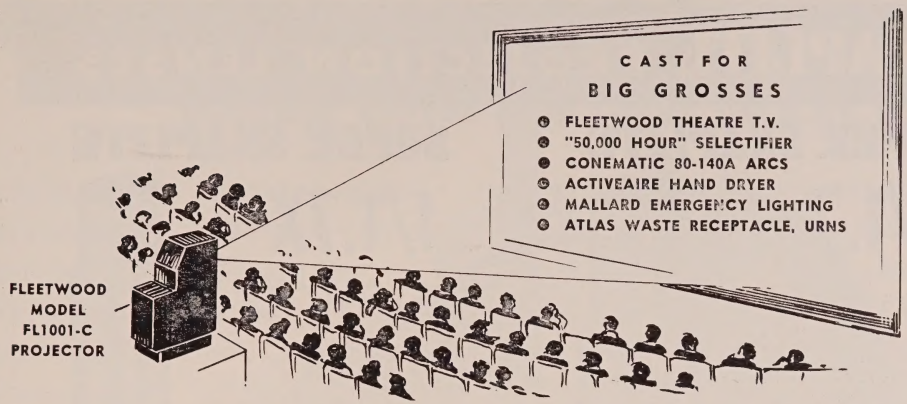
FACT... The High Intensity Screen is backed by a 3-year guarantee.

Face these facts and you'll be convinced: **The WALKER HIGH INTENSITY SCREEN is the Finest Screen for Your Theatre!**

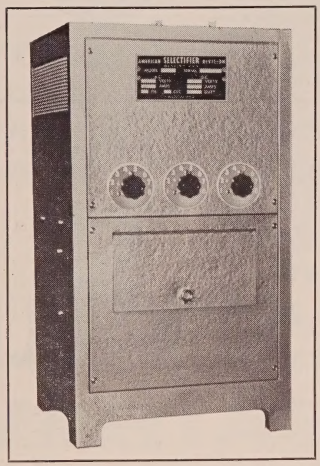
Manufactured by
WALKER AMERICAN CORPORATION
Distributed by

N.T.S

Your Guarantee OF CONSISTENT QUALITY AND OUTSTANDING SERVICE



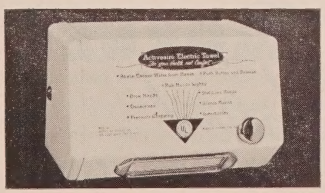
SELECTIFIER "50,000 HOUR" SELENIUM RECTIFIER



TODAY'S RECTIFIERS FOR TOMORROW'S ARCS

- 12 Phase Circuit
- Variable High and Low Voltage Controls
- Protection Against Overloads—stack overheating
- Down Draft Ventilation
- All Glass Insulated
- Simple Dial Controls
- Warning Signal
- 3 Phase and Single Phase AC

ACTIVEAIRE ELECTRIC TOWEL ADVANCED HAND DRYERS



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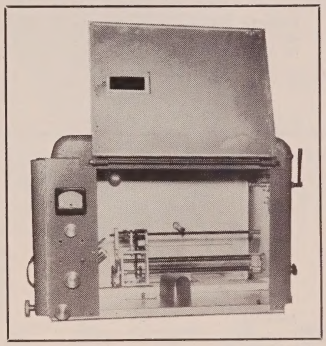

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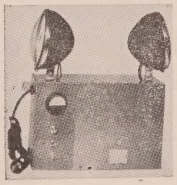

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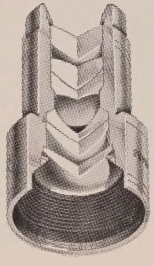

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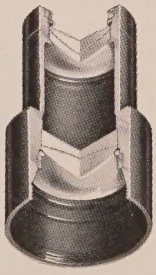

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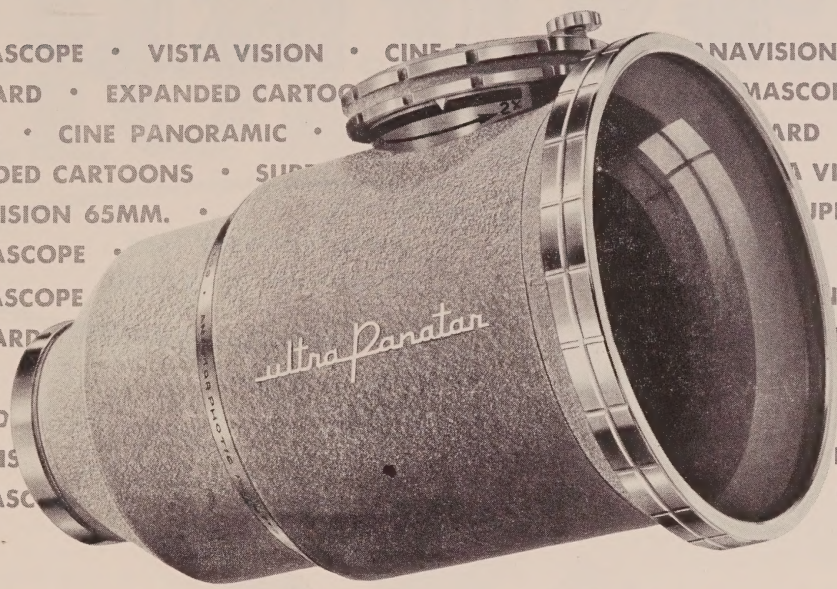

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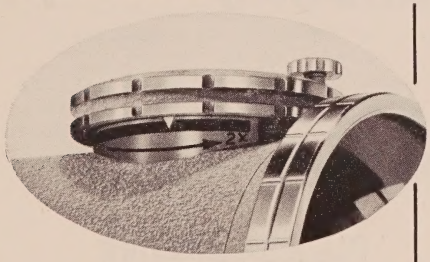

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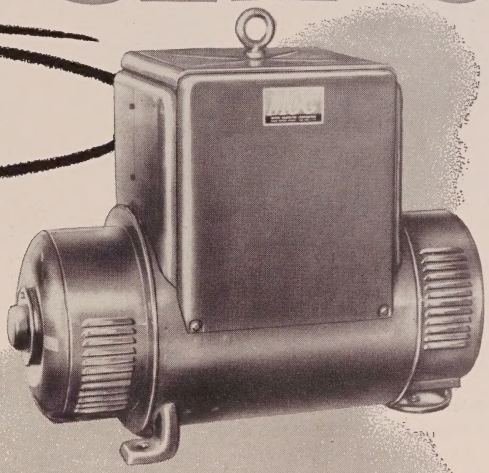

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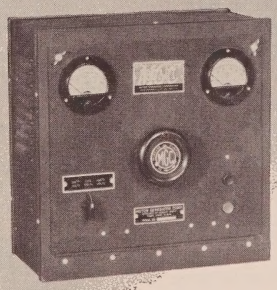

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7-mm × 12 or 14 in. Suprex	6-mm × 9 in. Orotip C	42	36	14 in. dia *f*/2.3 mirror	7.6	3.8
7-mm × 12 or 14 in. Suprex	6-mm × 9 in. Orotip C	46	38	14 in. dia *f*/2.3 mirror	9.3	4.0
7-mm × 12 or 14 in. Suprex	6-mm × 9 in. Orotip C	50	40	14 in. dia *f*/2.3 mirror	11.6	4.3
8-mm × 12 or 14 in. Suprex	7-mm × 9 in. Orotip C	60	39	14 in. dia *f*/2.3 mirror	9.3	3.8
8-mm × 12 or 14 in. Suprex	7-mm × 9 in. Orotip C	70	42	14 in. dia *f*/2.3 mirror	13.6	4.3
9-mm × 14 in. Suprex	8-mm × 9 in. Orotip C	65	41	14 in. dia *f*/2.3 mirror	10.5	3.3
9-mm × 14 in. Suprex	8-mm × 9 in. Orotip C	75	45	14 in. dia *f*/2.3 mirror	15.5	3.8
Rotating, Reflector-Type Lamps						
9-mm × 20 in. High-Intensity	5/16 × 9 in. Orotip	75	52	16–16½ in. dia *f*/1.9 mirror	14.0	3.3
9-mm × 20 in. High-Intensity	5/16 × 9 in. Orotip	85	58	16–16½ in. dia *f*/1.9 mirror	22.0	3.5
10-mm × 20 in. High-Intensity	11/32 × 9 in. Orotip	100	60	16–16½ in. dia *f*/1.9 mirror	20.0	3.0
11-mm × 20 in. High-Intensity	⅜ × 9 in. Orotip	120	65	16–16½ in. dia *f*/1.9 mirror	20.0	2.7
10-mm × 20 in. Hitex	7/16 × 9 in. Orotip	125	64	16–16½ in. dia *f*/1.9 mirror	19.5	2.4
10-mm × 20 in. Hitex	7/16 × 9 in. Orotip	130	66	16–16½ in. dia *f*/1.9 mirror	25	2.6
10-mm × 20 in. Hitex	7/16 × 9 in. Orotip	135	70	16–16½ in. dia *f*/1.9 mirror	32	1.7
10-mm Ultrex[1] Experimental	Experimental	165	80	Exper. *f*/2.0 mirror	45	
11-mm Ultrex[1] Experimental	Experimental	195	80	Exper. *f*/2.0 mirror	45	
Rotating, Condenser-Type Lamps						
13.6-mm × 22 in. New High-Intensity	7/16 × 9 in. Orotip	125	68	Condenser lenses at *f*/2.0	7.25	2.4
13.6-mm × 22 in. New High-Intensity	½ × 9 in. Orotip	150	74	Condenser lenses at *f*/2.0	14.0	1.9
13.6-mm × 22 in. New High-Intensity	½ × 9 in. Orotip	160	77	Condenser lenses at *f*/2.0	17.5	2.1
13.6-mm × 22 in. Hitex Super	½ × 9 in. Orotip Heavy Duty	170	70	Condenser lenses at *f*/2.0	16.0	2.3
13.6-mm × 22 in. Hitex Super	½ × 9 in. Orotip Heavy Duty	180	74	Condenser lenses at *f*/2.0	21.5	2.5
13.6-mm × 22 in. Ultrex[1] Experimental	Experimental	265		Condenser lenses at *f*/2.0		
13.6-mm × 22 in. Ultrex[1] Experimental	Experimental	290	80	Condenser lenses at *f*/2.0	45	

NOTE: [1]Experimental carbons burned with short protrusion in experimental water-cooled silver jaws.

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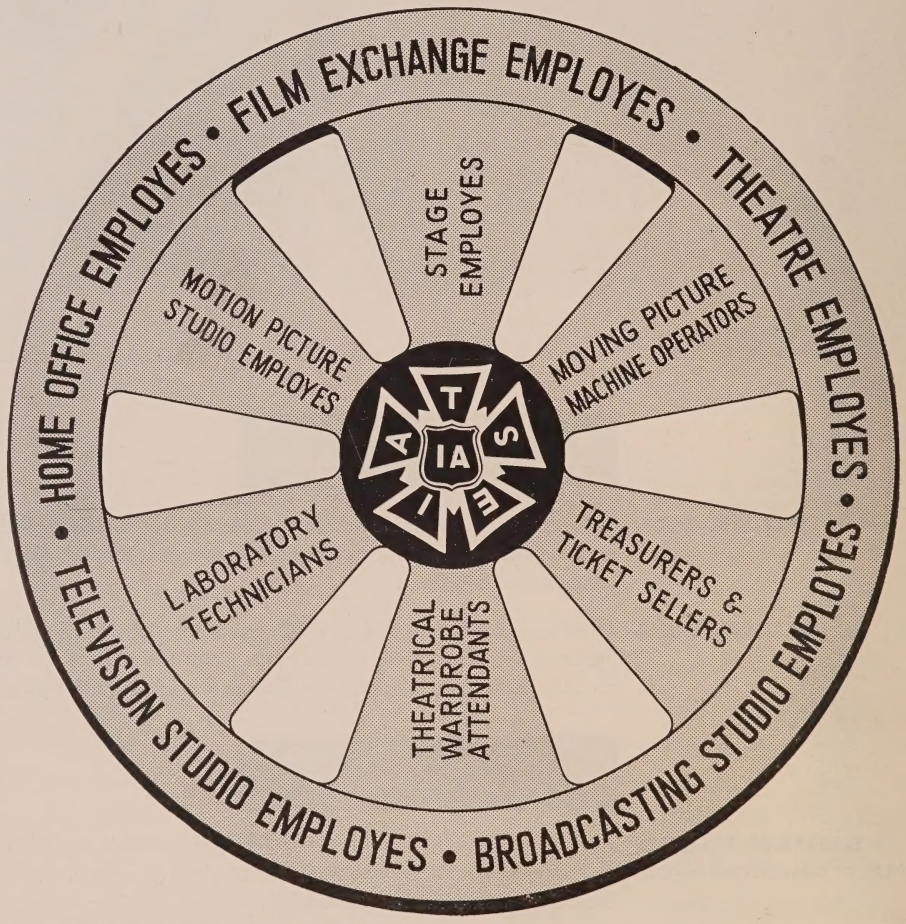

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METHODS, PRACTICES *and* MAINTENANCE

1955-56

20 Perils to Your Theatre

A Leading Insurance Expert Puts the Spotlight on the Major Hazards Which Face an Exhibitor and How to Prepare for Them

By A. L. HOLLENBECK
Secretary, Agricultural and Empire State Insurance Companies

BRIEF: ***In addition to the many other problems which face the operator of a motion picture theatre . . . it is vital that the exhibitor know enough to have an insurance program which will enable him to withstand a disaster . . . such as a major fire . . . and still be able to reopen his theatre . . . This article . . . prepared by one of the nation's finest insurance experts . . . goes into detail about the most common dangers that face a theatre . . . and what type . . . or types of insurance policies are available . . . Such subjects as fire loss . . . hazards to property and equipment . . . hazards to theatre operations . . . how to determine estimated loss of earnings . . . policies that will enable the theatre operator to meet extra expenses brought about by an accident . . . are all discussed in non-technical language . . . The information found in this article could very well mean the difference between being able to continue in business or closing the theatre doors . . . for the reader who matches his insurance program against the basic needs covered by the author.***

The manager of the Sioux Theatre — let's call him George Cowles — thought he was pretty well insured. He had life and health insurance for himself, fire, theft, and windstorm insurance covering his theatre, and workmen's compensation insurance for his employees. He was even covered if one of his patrons were to break a tooth on an unpopped kernel of corn. Despite this, Cowles seriously doubts today that he'll be able to keep his theatre open . . . because of an insurance oversight!

The trouble began a few months before when Cowles received a phone call that the Sioux was on fire. The fire department did all they could — but it was too late to save the building. Surveying the heap of tangled black debris a few hours later, Cowles felt thankful for his insurance. Ashes were still smouldering when adjusters arrived on the scene to appraise the loss. Before the week was out, Cowles had filed a standard "proof of loss" listing all property destroyed and its value, and within two weeks had received a check for $68,000 — full payment for physical loss. But this was only half of the picture.

Insurance Oversight

Like most businessmen, Cowles had forgotten to consider loss of earnings and to obtain covering insurance. Contractors estimated it would be six months before the Sioux was back in operation. During this time, Cowles must meet family living expenses. Then there were a host of business expenses — interest on loans, taxes, travel, phone calls, licenses and fees — all of which continued after the fire. In addition, he thought it wise to continue the salary of his assistant throughout the emergency so as not to lose his services.

Cowles estimated his earning loss during the shutdown at $17,000, and a good share of this is needed for his own income and continuing business expenses. Already Cowles has been forced to eat into the property insurance fund which may make it impossible for him to rebuild and reopen. And even if the Sioux does reopen, it will carry a heavy financial burden for years.

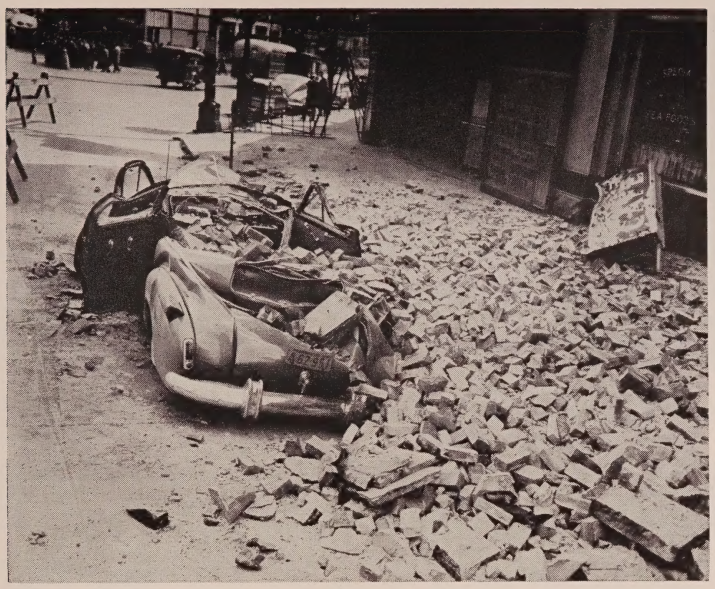
Use Your Insurance Dollar

Fortunately, most fires do not result in as serious a loss. Still, most theatre owners fail to make best use of their insurance dollar. They spend millions each year for policies — a wise investment — but not one in a dozen has a real understanding of the big perils facing his business or the types of protection best suited to his needs. While success at the boxoffice may hinge on his ability to offer a broad yet balanced selection of entertainment, most theatre owners fail to follow through with this principle when considering insurance.

Three Groups of Perils

Boiled down, the list of perils to a theatre fall into three broad groups:

ALTHOUGH a theatre operator does all in his power to avoid and prevent such things as a fire, it is important that he be properly insured so that he will be able to open again.



EXPLOSIONS, riots and windstorms can bring havoc to a theatre, as seen on the left, but a proper insurance program offers protection.

those which may result in a large loss, and should be covered by insurance, regardless of odds; those to which the business is constantly exposed, and which may or may not result in serious loss; and those small loss items which occur frequently. A sound insurance program should provide complete protection for the first group, careful selection from the second group to provide adequate coverage, and any additional protection from the third group which may be needed. This round-up of 20 leading perils may vary somewhat from theatre to theatre, depending on its size and location. When checking your needs for protection, weight each peril carefully, keeping in mind that hazards to theatre operations are equally as important as those to your property and equipment.

HAZARDS TO PROPERTY AND EQUIPMENT

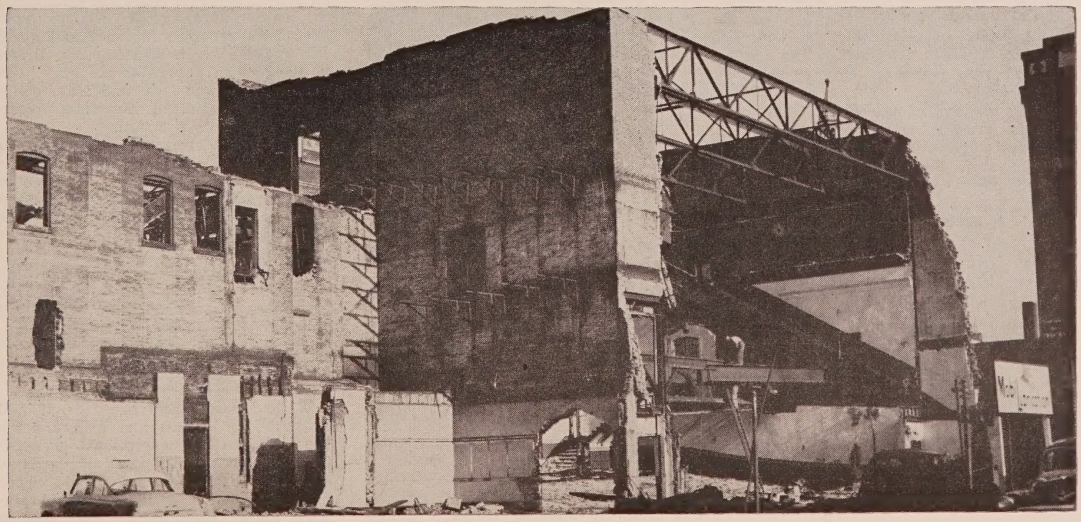
Fires account for the bulk of theatre destruction. Carelessness and inadequate attention to "minor" safeguards are directly responsible for most fires. Smoking in lounges or galleries, overheated popcorn machines, faulty spotlights, overloaded electrical circuits, improper ventilation, dirty flues . . . all these "minor" items have caused major fires.

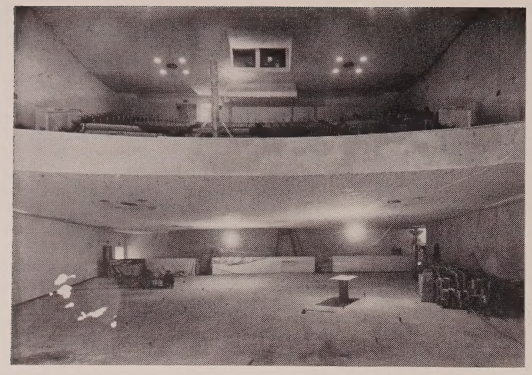
The basic fire policy, which also insures against loss by **lightning**, is the cornerstone of any theatre insurance program. Remember that the amount of insurance carried should cover any loss which the business could not otherwise absorb. Determine the present replacement value of your property and equipment, then check your policies to see what you can collect in the event of loss. Underwriters recommend that an annual review be made of the entire insurance program to make certain that policies are in line with current replacement costs. While most fire policies are pretty well standardized, there are differences from state to state, and you should know exactly how you are protected.

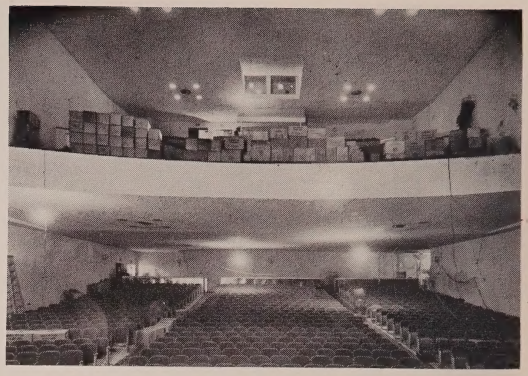
Smoke can cause more destruction than flames. One theatre owner discovered this recently when smoke from a soft coal furnace suddenly shot through the hot air duct, leaving a heavy deposit on every seat, wall, and floor in the building. It was two weeks before the theatre was reopened. Remember that the basic fire policy covers damage by smoke *during* a fire. Where smoke damage may occur without fire or loss, and from a "blow-out" of a faulty oil burner, separate coverage is required.

Windstorms are the worst enemy of the outdoor theatre. Screens, fences, ticket booths, roadside signs — even concession buildings — have been uprooted. Hurricane Hazel alone cost America's insurance companies more than $75,000,000. Tornadoes also have been lashing out at ever-widening areas of the country. Scientists say that the eye of a twister liberates energy at the rate of five to 10 atom bombs per second. This uncontrolled violence is severe enough to crumble the sturdiest building. Since it

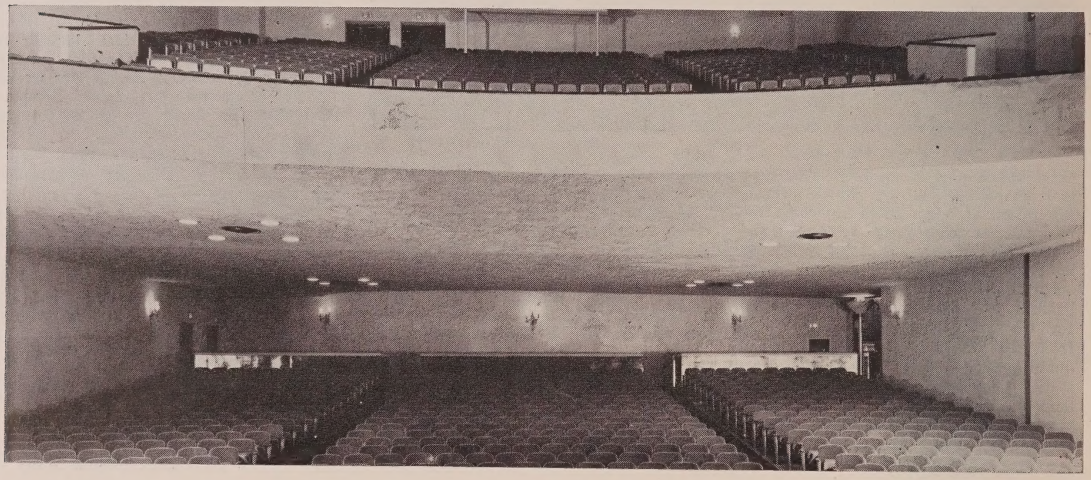
ANOTHER example of what can happen to a theatre is seen below. It is a theatreman's responsibility to have enough insurance to enable him to rebuild his theatre. It is recommended that an annual review be made of the replacement value of property and equipment, and insurance carried.







THE REBUILDING of a theatre auditorium is pictured above and below. It's vital that a theatre operator carry enough insurance so he will be able to properly undertake such an operation. An extra expense policy will cover such expenses as the rental of temporary quarters, and the like.



is impossible to tell when or where a storm may strike, it is the wise theatre owner who insures against Dame Nature's unpredictable whims.

Explosions, equally violent and unpredictable, can cause a devastating loss. Safety experts report that explosions often occur where least expected. A leaking gas main touched off an explosion in one theatre not long ago that sent seats flying through a 30-foot break in the roof. Fortunately, the theatre was empty when the mishap occurred. Where boilers or other pressure vessels are used, insurance against this hazard is paramount.

Riot from civil commotion or strikes can wreck a theatre marquee in a mat- of minutes. If this peril is increased by the nature or location of the theatre, adequate protection against damage — including attendant pillage and looting — is a "must." Drive-in theatres in particular also are faced with the hazard of **damage by cars or trucks** which may accidentally go out of control and crash into the property. Indoor theatres located on main thoroughfares are also subject to this form of destruction.

All of these hazards can be insured by a single addition to the basic fire policy called an Extended Coverage Endorsement. While any one also can be insured separately, cost of protecting against the entire group is nominal and recommended by underwriters as a sound business investment.

Other Losses

In addition, many theatre owners are faced with the possibility of **destruction of fine art.** Valuable paintings, wall murals, or sculptured objects may be ruined, either accidently or maliciously, and special insurance in the form of a Fine Arts policy may be needed to provide all-inclusive protection here. All-inclusive protection is also available to guard against the *loss of valuable cameras* and projection equipment. Check your existing insurance to see if this equipment is already covered. If not, an all risks camera policy may be needed.

Of the many other perils to the theatre and its contents, two are particularly noteworthy and can be added by endorsement for a small extra premium. **Destruction by vandals** has been steadily on the increase since World War II. In one midwest suburb, teen-age gangs destroyed so much property, including wholesale damage to three theatres, that an all-out program had to be established to prevent these raids. Similar cases have been reported in large and small communities across the country. Drive-in theatres in particular are open prey to vandalism and local and state police generally recommend insurance protection to cover this hazard.

Destruction of glass and electrical signs is one of the more common perils to a theatre. Strong winds, defective or rotted frames, motor vehicle or pedestrian accidents, hallowe'en pranksters, burglars, and even dissatisfied customers or employees can cause a loss. Since most theatres have a relatively high investment in glass and are subject to broad exposure, a special glass insurance policy may be in order.

HAZARDS TO THEATRE OPERATIONS

While most theatres are insured against loss by fire and many of the "natural perils," operational hazards often are neglected. **Loss of earnings** after a fire, for example, could prove disastrous. Every exhibitor should consider these questions: If your theatre

WORKMEN'S compensation is mandatory in most states, and the exhibitor should be familiar with these rules, and carry enough insurance.

burns tonight, even though your insurance fully covers your property, would you be able to get back in business? Would you have to eat into the property insurance to make up for lost earnings during the shutdown? Would you be able to support your family, meet monthly obligations, retain key personnel, and the patronage of your area? In fact, do you have any idea how much all this would amount to?

Estimate Lost Earnings

You can figure this out in a moment. First take a guess as to how many months it would take to reconstruct the building, replace furnishings and equipment, and return to normal operations. Apply this time to your best income month. Estimate total income for this period and subtract only those expenses which would cease during the shutdown. The remainder is the amount you stand to lose if you have a total loss and are not covered by insurance.

Even when continuing expenses are covered by insurance, however, certain theatres may suffer heavy loss of patronage by not opening their doors as soon as possible after a loss. More often than not this involves **extra expense,** and is covered by another special policy. Extra expense insurance will pay additional expenses while operating under emergency conditions. This covers the cost of rental of temporary quarters, if necessary, and also the purchase of any equipment essential to the continuity of the business. For theatre owners who also rent a portion of their property, income from rent should be maintained in event of fire or other loss. This is provided for in another policy and can be added to your regular fire policy or obtained as a separate coverage. Keep in mind that the exhibitor who leases premises is subject to the same risks, loss of earnings, and continuing expenses during shutdown as the operator who owns the building he occupies.

Negligence

Every theatre owner is exposed to the possibility of a claim for **negligence.** All an injured person has to do to get you into court is to allege that ordinary care has not been taken and you were negligent to some degree. Even when innocent, settling these claims can be troublesome and expensive.

Keep in mind that there is no exact definition of negligence and that it is the jury — not the judge or the law — which ultimately decides whether negligence has or has not existed. To make certain that you are properly protected, ask your insurance agent to review the various forms of liability coverage. Most underwriters recommend a comprehensive general liability policy which insures in one policy against all hazards arising from the operator's buildings,

SUCH things as rubber mats will help prevent accidents. A comprehensive general liability policy also offers protection against hazards.

How Exposed Are You?

Check this list of 20 leading perils to find out the weak spots in your theatre insurance program.

——— Fire	——— Glass and Electrical Signs
——— Lightning	——— Loss of Earnings
——— Smoke	——— Extra Expense
——— Windstorms	——— Rental Income
——— Explosions	——— Comprehensive General Liability
——— Riot	——— Motor Vehicle Liability
——— Property Damage by Automobiles	——— Workmen's Compensation
——— Destruction of Fine Art	——— Burglary, Theft and Robbery
——— Destruction of Projection Equipment	——— Dishonesty, Disappearance and Destruction
——— Vandalism	——— Loss of Films

premises, and business operations. If desired, a separate policy may be obtained to protect the theatre owner from loss due to claims of injury caused by consumption of food or beverage at the concession stand. Another policy protects against liability assumed under contract. At any rate, make sure you are insured for an adequate amount, and keep in mind that the judgment is apt to be particularly large if the defendant is an established and prosperous businessman.

Additional Hazards

By all means, liability insurance should include a policy covering **motor vehicle liability.** All states now have financial responsibility laws which require the owner of an automobile to show evidence of his ability to pay for injury to others caused by his negligence, or to lose the privilege of driving. Since most theatre owners would be seriously impaired without the use of an automobile, adequate protection here is essential. Liability insurance against this hazard covers bodily injury, property damage, and usually provides for medical payments in event of injury.

Workmen's compensation is mandatory in most states. This law requires the employer to show proof of covering insurance or other financial ability to pay the benefits established by law in event the employer is held liable for personal injury or death suffered by employees. Be familiar with your state requirements, and carry insurance for an adequate amount.

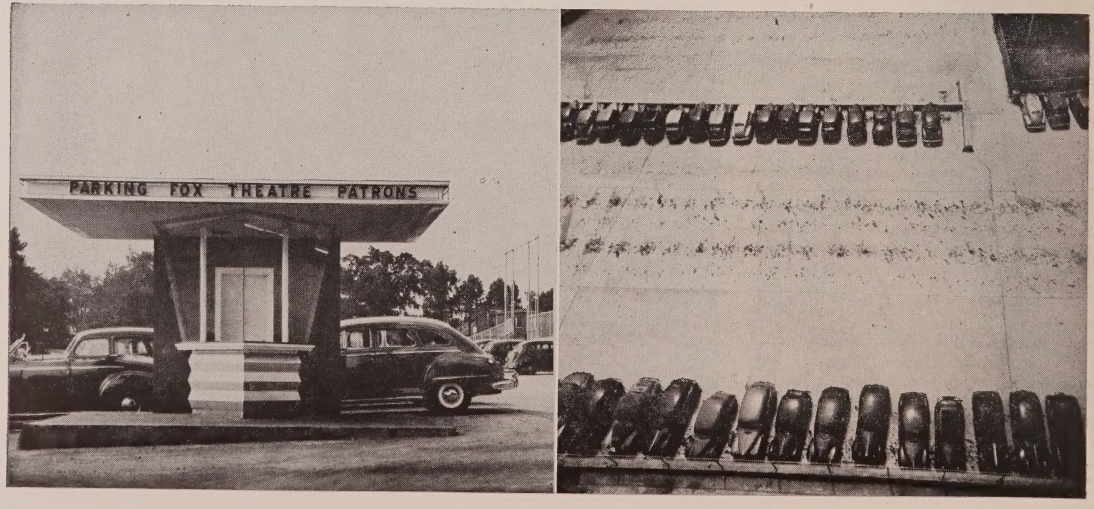
Burglary, theft and robbery is another ever-present threat. The FBI recently surveyed 359 cities across the country and reported that over 1100 places were looted daily in these communities. Ask your agent about the various policies which will protect you from such loss. Underwriters generally recommend that small business include a special 3D policy — protecting against **dishonesty, disappearance, and destruction.** This combination policy consists of five broad coverages all optional to include loss through employee's dishonest act, loss of money and securities occurring within the premises, loss of money and securities outside the premises, loss of securities within safety deposit boxes, and loss through forgery of outgoing instruments.

Finally, theatre owners are faced with the possible **loss of films** which they are returning to the distributor. A low-cost parcel post or express policy is now available to insure safe arrival of all films being returned. The inconvenience of insuring each package is eliminated by this blanket protection and is well worth its cost strictly from a standpoint of convenience.

CONCLUSION

If you're protected against these 20 perils, relax. Chances are you'll be able to weather just about anything that fate may throw your way. But if you've spotted a weak spot in your insurance program, correct this immediately before it's too late. Your insurance agent — who also is a businessman — will recommend the best policy for your theatre. Listening to his advice will not cost a cent . . . and could save you from a disastrous loss.

TODAY MANY conventional theatres have parking lots for their customers, such as seen below. Naturally, drive-in theatres also deal with a great many automobiles. It could be disastrous for the operator of a theatre to neglect to give attention to this in his general insurance program.



Safety and the Theatre

One of the Exhibitor's Responsibilities to His Community Is to Know How to Make His Theatre a Safe Place to Visit

By ROBERT MEYER
National Safety Council

BRIEF: ***Most theatre operators . . . being aware of the terrible disasters that can be caused by fire . . . usually take the proper precautions to prevent such tragedies . . . However . . . it is just as important for the indoor and outdoor theatreman to devote some attention to general safety practices . . . Prepared by the National Safety Council . . . this article is designed to acquaint the exhibitor with safety information on such topics as first aid procedures . . . the various types of first-aid equipment to keep on hand . . . which areas of the theatre building present the greatest danger of accidents . . . and others of an equally important nature . . . Drive-in theatre operators will be particularly interested in the latter half of this article as it is devoted exclusively to the safety problems of outdoor situations . . . Safety is too important to be ignored . . . and some of the information found here could very well equip an exhibitor so that he will be able to prevent serious injuries to his patrons . . . and avoid the bad publicity and possible law suits that can be the final result of such unfortunate happenings.***

Disasters such as the Iroquois Theatre fire in Chicago in 1903, the Boston night club fire in 1942 and the Hartford Circus fire in 1944 have dramatically brought home the need for adequate safety and fire prevention measures in places of public assembly.

Owners of theatres must take an active interest in safeguarding the lives of their patrons, not only for humanitarian reasons but also because of the heavy financial and legal burdens they face if they are found liable in case of disaster.

Reasonable Care

Exhibitors are bound to exercise reasonable care to protect their patrons from the dangers which human care and foresight can reasonably anticipate and prevent. If they fail in this, they are guilty of negligence, and they are liable to both civil and criminal action. They may have to pay money damages for injury or death caused by their negligence, and they may even be sent to prison under the criminal code.

Such disasters are not excusable as acts of God. They are usually due to man's carelessness. For instance, the Iroquois Theatre fire, which took nearly 600 lives, began when a floodlight ignited a piece of drapery. In court, the stagehand who operated the floodlight testified that he had repeatedly called his superior's attention to the danger of the nearness of the drapery, but nothing had been done. The fire at its beginning was so insignificant that the operator tried to smother it with his hands. It could have been controlled easily if only minor safety devices had been at hand. However, although the newly built theatre had been in operation for more than a month, there were no hoses connected to the standpipes — and there was no water in the standpipes!

Fire in theatres, and the panic that usually results, calls attention in a most spectacular manner to the need for safety. The notorious disasters have resulted in a great amount of publicity, which in turn has given rise to numerous state laws and regulations that provide detailed measures to be taken both in the construction and operation of theatres in order to safeguard the public. Particular attention has been given the projection booths in motion picture theatres which offer a special hazard.

IT IS THE duty of every theatre operator to take all the necessary precautions to protect his patrons, such as those seen here. This means not only proper attention to such things as fire prevention, but to the many minor dangers and mishaps that can occur in a public place, such as falls, etc.

MEMBERS of the theatre staff should always be ready and equipped to get the patron into the auditorium safely, as seen on the left.

GENERAL SAFETY

While there is little doubt that fire is the major threat to theatre safety, the operator should not be complacent about the day-to-day minor injuries that occur in theatres. These do not make the front page, but together they can have an important effect on the success of the operation. These falls, bruises, cuts, etc., cause pain and inconvenience to both patrons and employees. They disrupt the smooth operation of the theatre, and, when they occur too frequently, make for poor public relations. People don't like to be entertained at the risk of personal injury.

Proper Facilities Needed

Therefore, it is important that adequate measures be taken to make the theatre as safe a place as possible, and that facilities be provided if an injury does occur. Prompt and efficient handling leaves the injured patron with a kindly attitude toward the management.

USHERS should immediately aid an injured patron (above) and with little excitement. A first-aid room, with an attendant (below) is of particular value in large theatre subject to more accidents. Big or small, however, the advantages of a trained staff should be obvious to exhibitors.

The manager of a theatre must realize that safety starts with himself. He must let his employees know that he is interested in safety by giving his active support to accident prevention.

In a small theatre he can supervise the safety program himself. In a larger organization, he will probably want to place a dependable subordinate in charge.

Uncover the Problem

His first step should be to uncover the problem — study the records to find out who has been getting hurt and what the causes of the injuries have been. If no records have been kept of minor injuries, he should start compiling such records. Obviously, each theatre will differ somewhat from other theatres and a quick study should be made to see just where the danger spots are in a given establishment.

Once records have been compiled, hazards can be removed. Of course, many safety measures can be taken without waiting for the dividends of a record system. They are dictated by common sense, or the advice of an experienced safety inspector. Periodic inspections should be made to see that safeguards are in place. Sometimes investigation will show that new and better methods should be used.

SAFETY TIPS

Here are some of the trouble spots to watch and correct:

Outside Areas

1. **Be sure there are no tripping and stumbling hazards in the sidewalks or parking areas.**
2. **Keep sidewalks and entrances free of water, ice, snow and refuse.**
3. **"A" frame signs in lobby or at sidewalk entrances should be secured against overturning by the wind, by children, or by pressure of the crowd.**

4. **Periodically check fire escapes for loose or rusted parts. Report defective panic-bars.**
5. **When the theatre is open, see that exit areas are not obstructed and that padlocks are removed from gates.**

Lobby

1. **Rubber runners and mats used in the lobby should not curl at the edges and present tripping hazards.**
2. **Sand urns for discarded cigarettes should be placed in a position that will not be hazardous.**
3. **Install sturdy barriers to keep patrons standing in unrestricted areas of the lobby or mezzanine from blocking exit lanes.**
4. **Lobby doors should be unlocked and unobstructed at all times when the theatre is open to the public.**
5. **Keep lobby floors clean and dry as possible. When anything is dropped, pick it up immediately.**

Auditorium

1. **Report all torn, ripped or loose floor coverings for immediate repair.**
2. **Report any chairs that are not securely fastened to the floor.**
3. **If sidewall, stair, passageway, aisle or exit lights burn out, repair at once.**
4. **If chair is unsafe, rope it off from arm to arm for full depth of seat and report conditions immediately. Watch particularly for splinters.**
5. **See that fire extinguisher holders are securely fastened to wall. Check fire fighting equipment regularly.**
6. **Ushers should give special attention to aged persons, cripples, children, and particularly to women with children in their arms. Take them to their seats and do not extinguish flashlight until patron is seated.**
7. **Wet rest room floors are slipping hazards. See that they are kept dry.**

Mezzanine and Balcony

1. **The placing of clothing, bottles, umbrellas, candy boxes, etc., on balcony rails from which they may fall, should be prohibited.**
2. **Loose parapet guard rails should be reported at once.**
3. **Defective nosings treads and handrails on stairs should be replaced or reported at once.**

No matter how good the safety program may be, there will always be some accidents. And it is important to be prapared when these accidents do occur.

Be Ready for Accidents

In case of a serious injury or illness to a patron or employee, a doctor should be summoned immediately. However, most injuries that are likely to occur in a theatre are of minor nature that can be treated readily by employees trained in first aid.

When a patron is injured, the usher should immediately inform the management. The usher should assist the injured person out of the auditorium to a dressing room or other room where first aid can be administered.

The larger theatres often have regular first aid rooms with attendants. In the smaller ones, there may be only first aid kits. But all theatres should have a list of doctors and hospitals which they can call in emergency cases.

First Aid Kit

The question arises as to what type of a first aid kit a theatre should have. First aid kits should always be tailored to the type of injuries that are likely to occur. A survey of a theatre's accident records will provide the background information needed in order to select medications.

Fortunately there are available unit first aid kits that provide dressing and treatment in an individual unit for one-time use only. These unit kits have many advantages. Materials can be maintained in a sanitary condition, there is no deterioration of the materials or dressings during periods of infrequent use, and there is more likely to be a sufficient quantity and wider assortment of bandages.

Unit first aid materials are packaged in three standard size stock cartons, a single unit size and two multiples of that size. This permits a wide choice of dressings and other materials to fit in any selected kit.

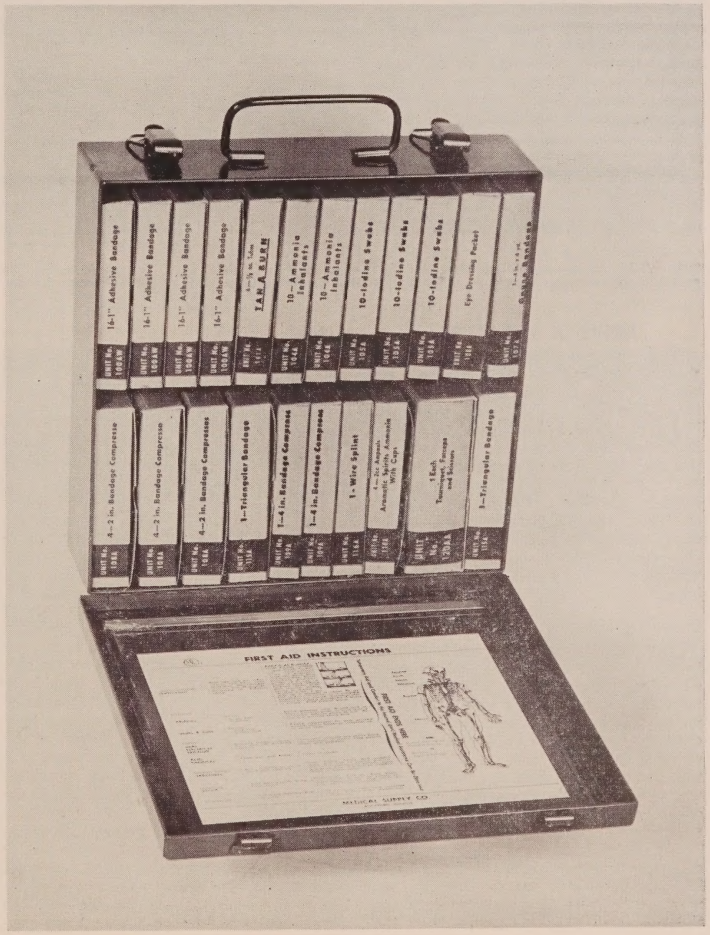
Kit sizes and combinations of dressings and other contents are determined by the number of persons to be protected, with consideration given to the nature and frequency of the injuries likely to be encountered.

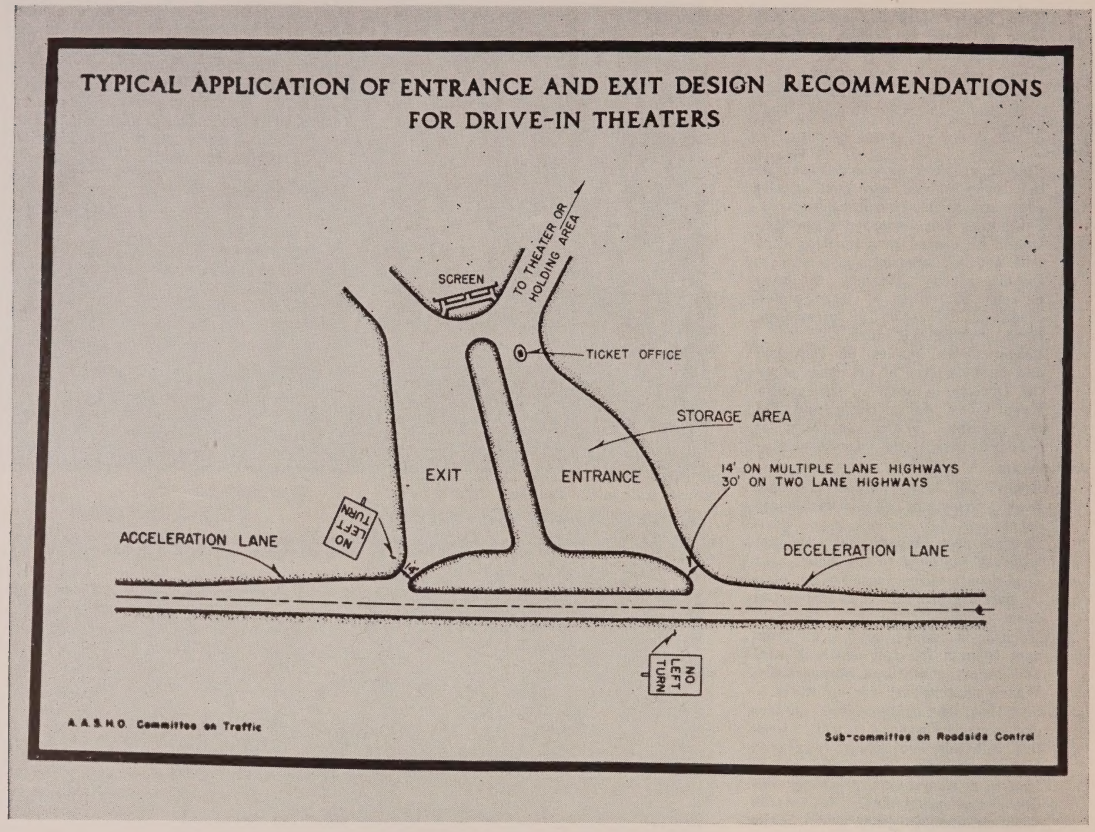
Items to Carry

Some of the items that might well be in a theatre first aid kit are:

Burn ointment
Triangular bandage
Tourniquet
Ammonia inhalant
Wire splint
Gauze and adhesive tape in various sizes
Gauze compresses
An accepted antiseptic
Boric acid solution
1 pair Bandage scissors
1 pair Splinter forceps
Cotton
First aid book

EVERY THEATRE should be equipped with proper first-aid kits. The type of kit to use should depend on the theatres, number of people that must be given protection, etc. Seen is typical first aid kit.





SEEN HERE are the recommendations for the design of drive-in theatre exits and entrances in reference to safety factors. This illustration originally appeared in the "Policy on Drive-In Theatres" published by the American Association of State Highway Officials, and is worth study by exhibitors.

DRIVE-IN THEATRES

The growth of the open air drive-in theatre has brought new problems in safety to theatre management. Some of these problems arise from conditions inside the theatre area itself where the intermittent movement of vehicles and pedestrians presents a hazard. Concession areas attract a constant flow of patrons; at frequent intervals young children thread their way between and behind autos where they cannot be seen by drivers who are backing out. Careful traffic control by attendants is most important here.

Entering the Drive-In

But the big safety problem is related to the entrance of the theatre. Nearly all drive-in theatres are located outside towns and cities in areas where there are no comprehensive zoning laws or municipal regulations. Lack of control has resulted in 90 per cent of the drive-in theatres being located on major highways. These high speed highways are often not well suited to absorbing the short time peak loads of theatre patrons.

One of the most common problems on major two-lane highways is the backing up of vehicles due to the left turn movements from the highway into the theatre. Such problems result from the inability of the left turn traffic to cross the opposing traffic stream, thereby stopping not only all following left turn traffic but all through traffic as well.

Many traffic engineers have advocated the construction of drive-in theatres on good paved side roads just off the super-highways so that the outgoing traffic from the theatre will be able to ease onto the super-highway instead of entering it directly from the theatre.

Another factor that can cause considerable trouble on highways adjacent to drive-in theatres is the visibility of the motion picture screen. From a safety point of view theatre screens should not be permitted to face the major highway. It would not be practical to require that the screen be invisible to all side roads in the area, but it should be turned to affect the least disturbance of traffic. In a few cases an attempt has been made to obstruct the vision of the screen by a high fence. Although this may be effective, it is a poor substitute for setting the screen properly in the first place.

Since drive-in theatres are a permanent thing, it is reasonable to consider the use of trees as a means to obstruct the vision of screens where it is necessary for such to face the highway. In moist soils willow or poplar trees provide excellent screening in two or three years if planted at eight or 10 feet in height, depending of course on the grades involved and the height of the motion picture screen.

Care should be taken to keep all purely advertising signs off state highway right of ways. Signs of a directional or warning nature regarding the theatre that are actually necessary to the highway right of way should be designed and located by the state, but probably should be paid for by the theatre management.

Holding Areas

Theatres should be designed with sufficient storage area between the highway and ticket gates, and sufficient holding area between the ticket gates and the stall area. Failure to do this makes it necessary for vehicles to be stored on the highway either because ticket sellers cannot operate fast enough, or because there is insufficient room between the highway and gate, or the space was filled beyond the gate with vehicles waiting for the next show.

Many theatre owners have done much to forestall a rush at the ticket gates. The boxoffice is open an hour or more prior to show time and entertaining facilities to encourage early arrivals.

Theatre Screen Advertising Survey

Some Interesting Results of a Survey Taken by a Leading Firm of Business Analysts About Screen Advertising and Audiences

PREPARED BY THE PUBLIC RELATIONS DEPT., ALEXANDER FILM CO.

BRIEF: ***One of the things which often gives the exhibitor pause . . . is the question of whether he should use his screen as an advertising medium for things other than his coming attractions . . . and possibly his concession stand . . . This same question is asked by the advertisers who must pay for this service . . . In order to determine just how effective theatre screen advertising is . . . and to find out more about the actual make-up of the motion picture audience . . . a leading firm which specializes in such things . . . undertook an exhaustive and scientific survey of this particular subject . . . This article examines some of the results of this survey . . . and should be of interest to all theatremen . . . In addition to uncovering some vital information about the effectiveness of theatre screen advertising as a mass medium . . . this article also discloses some pertinent data about the average age . . . occupations . . . and other characteristics of the movie going public . . . This could be very helpful to the exhibitor in ways other than determining the value of screen advertising . . . This story is worth some close attention.***

Advertising was born the day man first scratched hieroglyphics on a rock. Ever since that day man has sought better ways to advertise products or services and, when the need arose, better ways to test the effectiveness of different media. The list of advertising media is long, ranging from newspapers to direct mail, billboards to television — and the methods of testing them are as varied as the media themselves. Unfortunately, so are the answers to this testing. A recent independent survey of the theatre screen advertising medium by Sindlinger & Company, Business Analysts, has proven that film ads enjoy the sharpest possible measurement of any medium.

Some Questions

Let's use your own living room as an example. What happens at your house when commercials are flashed on the television screen? A dash for another pack of cigarettes, or a trip to the kitchen for refreshments? Deciding among your family who the killer is, or who will win the jackpot question? Probably all this and more. But does this tendency among TV viewers to skip the commercials bring additional customers into the advertiser's establishment? When you sit down to relax with the paper how much of your attention does the advertising material receive? And again, do you read every ad in the paper? The answers to these questions are obvious but, despite these situations, time and space salesmen continue to use a program's rating or a newspaper's circulation as an inducement to the advertiser. These two words, rating and circulation, cast a spell over a prospective advertiser and dissipate his awareness of the situations mentioned above. In short, why should a local merchant buy time on a radio or TV program only because the salesman had statistics to show that 60 out of every 100 receivers in the area are tuned to it; or purchase display space in a newspaper on the assumption that, because the paper's circulation is 20,000 (or 100,000) it will do the job he wants done?

In sharp contrast to this, the measurement of theatre screen advertising is the actual number of admissions sold at the boxoffice — one theatre admission equals one exposure to a particular film ad. But, one receiver tuned to a program does not necessarily mean one listener reached by a given commercial. Nor does one unit of circulation mean one reader exposed to a particular ad. Thus, film advertising with its measurement of individual exposures has the sharpest measurement of readership in the whole big world of advertising.

A Yardstick Needed

These, for some, have been interesting facts to learn but they don't tell us much about the medium itself . . . there must be something to measure with this super-

IN ORDER to determine the effectiveness of a theatre screen advertising campaign, it is very important to know more about theatre audiences.

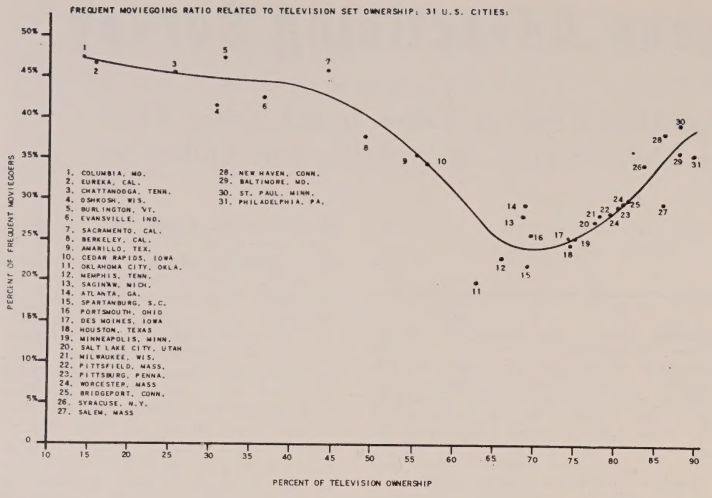


CHART 1 offers a picture of the return to the theatre by the average American after an extended absence caused, in many instances, by TV. The chart shows that when telecast saturation (horizontal scale) reached a point between 65 and 70 per cent, the number of frequent moviegoers (vertical scale) took a sharp upturn. It should be noted that today set ownership has passed 75 per cent in most areas.

accurate yardstick. How many people go to the movies in a day or a week — in your theatre or in the house down the street? As a theatreman you have probably been exposed in the last 18 months to magazine and newspaper articles by the hundreds telling of the increase in theatre attendance — the grand march back to the movies by the American public. Sindlinger & Company substantiated the big comeback with its survey made for COMPO during the admission tax battle. According to the survey the turning point in the downward trend in theatre attendance, which started late in 1946, came in 1954. Sindlinger statistics show a great increase in average weekly attendance (the generally accepted base measurement) in 1954 over 1953. The figure for December 1954 was 32.3 million as compared to 24.2 million for the same month in 1953. Monthly figures show a rise from 107 million total attendance in December '53 to 142.9 million in December '54.

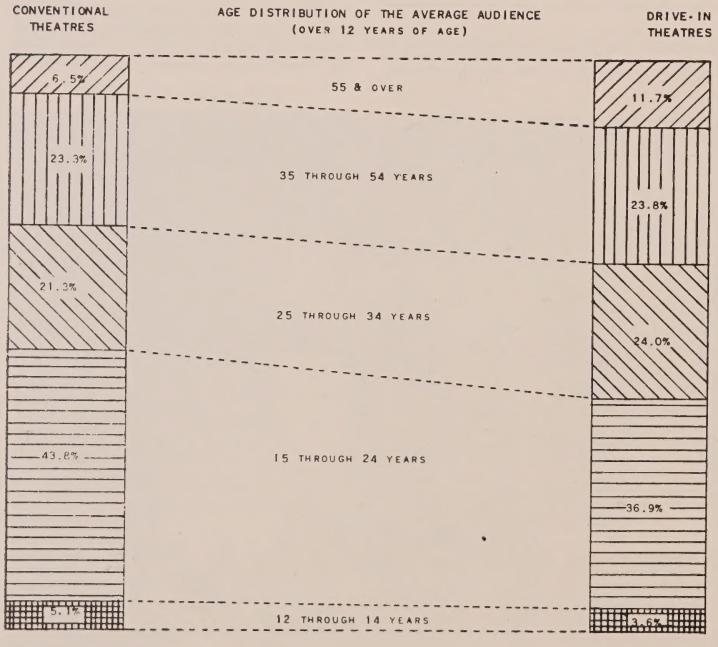


CHART 3 indicates the age of the theatre audiences attending indoor theatres as compared to that of a drive-in. Fairly even distribution of the primary brackets can be noted, with exception of the 15-24 year group. A higher percentage of these attend the four-wall theatre than attend the drive-in.

Probing Survey

Television and its effect on theatre attendance also came under the probing eyes of the Sindlinger survey teams. Statistics from a 1953 survey on the habits of frequent moviegoers (those who attend a theatre at least two or three times a month) resulted in the smoooh curve, as seen in Chart I.

A smooth curve is a graphic mathematical average of a group of related points; in this case 31 cities scattered across the country. During November and December 1953, before the sharp upturn in the quality of motion pictures, and before widespread use of the large-screen processes, Sindlinger teams moved into these cities to determine the effect of television on theatre attendance. The communities varied in population and degree of television ownership (saturation). As the curve shows, the study provided concrete evidence that the number of frequent moviegoers in the 31 cities grew smaller as television set ownership increased. This retreat from the movies, however, reached its ebb at a teleset saturation of between 65 and 70 per cent. At this point the curve reverses itself and soars steadily upward at a faster rate than it fell. Although the quality of current motion pictures and the technological developments are tremendously important factors in increased theatre attendance, the conclusion that this upward trend will persist is based on the solid fact that teleset saturation has passed 68 per cent in nearly all the important markets, and has jumped over the 75 to 80 per cent mark in most of the major markets. This means that in nearly every section of the country people are tiring of TV and going back to the movies.

5-CITY AVER. AT END OF:	NEW AUDIENCE	ACCUMULATED AUDIENCE
1st week	45.8%	45.8%
2nd "	9.6	55.4
3rd "	4.8	60.2
4th "	4.5	64.7
5th "	2.2	66.9
6th "	1.1	68.0
7th "	1.1	69.1
8th "	1.1	70.2
9th "	1.1	71.3
10th "	1.1	72.4
11th "	1.1	73.5
12th "	1.1	74.6
13th "	1.1	75.7
17th "	4.2	79.9
21st "	1.6	81.5
26th "	1.2	82.7
39th "	2.8	85.5
52nd "	2.8	88.3
Not exposed in a year...	11.7	11.7
TOTAL	100.0%	100.0%

CHART 2 graphically represents the total number of moviegoers accumulated in theatres surveyed. It shows that of the total potential audience, only 11.7 per cent were not exposed to theatre screen advertising within the period of a single year.

Number of Exposures

Now that we have our yardstick and plenty of people going to the movies, let's measure them in terms of exposure to theatre screen advertising. The survey of the medium was conducted by Sindlinger in five widely separated communities. Fieldwork for the survey required six months, and tabulation and preparation of the data another four. Using the concept of the cumulative audience, which originated with publishers and broadcasters, Sindlinger used the first week's audience of a theatre as a base and added to it the new audience gained or accumulated each week. Thus, a complete picture of exposure to screen ads resulted — old audience plus new equals total number of individual exposures to the medium. This figure approximates much more closely the readership of an ad by individuals than do the cumulative audience figures of a publication or broadcast.

Movie ads, in the Sindlinger-surveyed areas, accumulated in 13 weeks an audience of 75.7 per cent of the total population over five years old capable of attending a theatre. In contrast to publishing and broadcasting where, studies show, cumulative audiences build rapidly up to 10 weeks and level off at about the 13th week, the movie ad cumulative audience continues to increase. In a year only 11.7 per cent of the entire movie potential was not exposed to movie ads. This means a lot to the advertiser who is on the screen and wondering how effective his film ads are.

Audience Characteristics

Nearly every theatreman, at one time or another, has grown curious about the characteristics of his audience. But these facts are of vital importance to the screen advertiser. Knowing the age, sex

IMPACT OF THEATRE SCREEN ADVERTISING IN RELATION TO TIME OF EXPOSURE

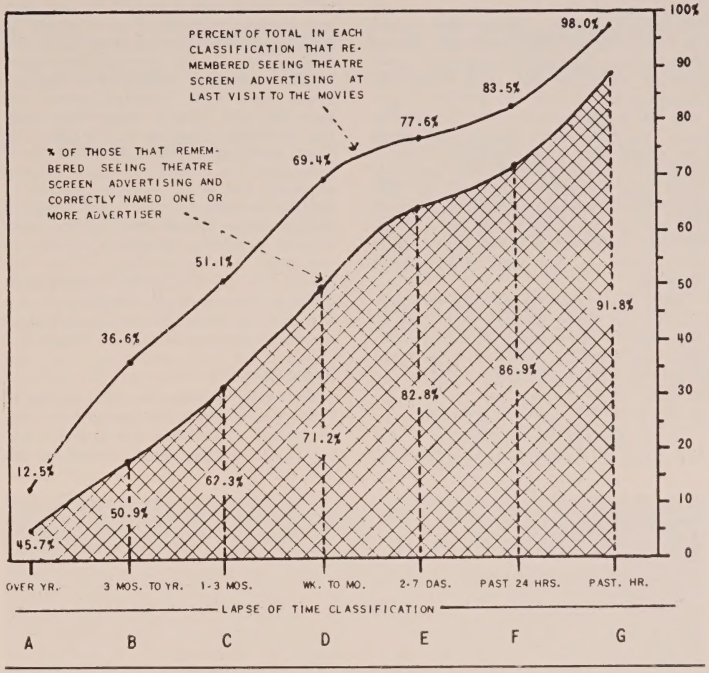
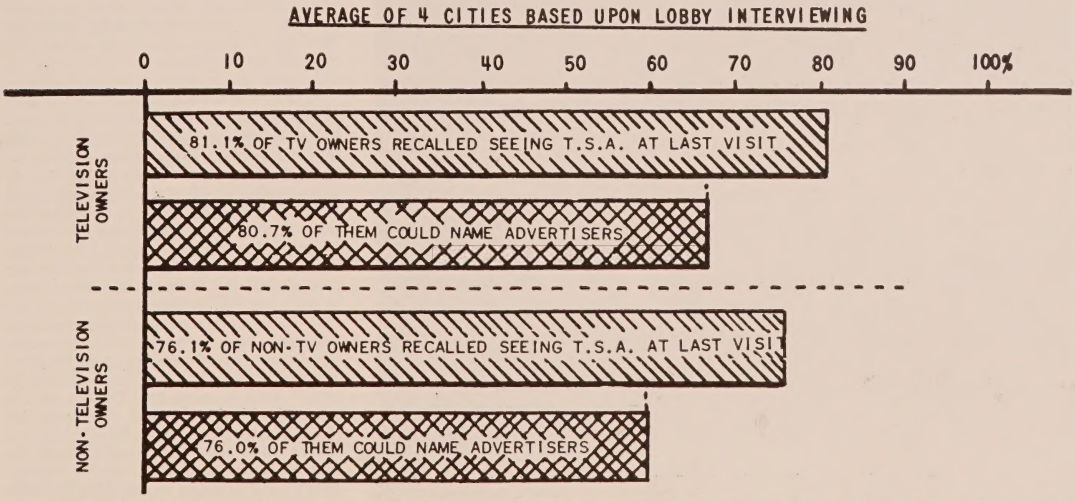


CHART 4 (above) shows that of all persons interviewed who had been to a movie seven days prior to being interviewed, 77.6 per cent remembered film ads, and 82.8 per cent of those could name one or more advertisers. The same high ratio ranged down through the weeks and months, including those who had not attended the movies in over a year. Chart 5 (below) shows that the remembrance value of movie ads was higher among TV set owners that with non-owners. This factor was attributed to the conditioning of TV owners to a type of screen advertising. Basically, they are so accustomed to seeing advertising on their sets that screen advertising does not seem to be out of place on a theatre screen

The chart below shows the knowledge and impact of theatre screen advertising by television ownership, as it was measured among the average theatre audience.



and occupation groups of the audience he is reaching is a primary factor in determining the success of a screen ad campaign. That the movies have a universal appeal, that they reach people of all ages, and have a tremendous impact on those who see them, are widely known facts. But, detailed information about theatre audiences had been inadequate or unavailable before the Sindlinger survey. During the survey research experts took particular pains to find out about the people they were studying: How old they were; what types of work they did; how much education they had, etc. One particularly interesting finding concerns the age groups into which the average theatre audience is divided and their distribution in four-wall and drive-in theatres.

Additional facts revealed by this portion of the study showed that over 80 per cent of the average surveyed audience had attended high school, and that nearly that many had been to the movies at least once during the month prior to the time they were interviewed.

In all surveys of moviegoers in the test areas, Sindlinger interview questions were designed so as not to give persons answering an idea of what subject they were being questioned on. This is known as the "unaided recall" technique and differs from "aided recall" in that persons being interviewed were given no hints as to what the answers might be. There were a total of 6,661 interviews made under these conditions in the test areas. This total included nearly 200 tape recorded "depth" interviews ranging from 40 to 90 minutes in length. The depth technique permits the following of leads and reactions by a conversational approach and is an objective method of qualitative research. The total sampling ranged from 11 per cent in the most densely populated community up to 50 per cent in the smallest of the five areas. The U. S. Census Bureau considers a three per cent sampling as permissable accuracy. Here the results of the interviewing are seen in Chart 4.

Some Results

As could be expected, the length of time after a person was exposed to theatre screen advertising was a major factor in influencing the retention of the names of products and advertisers' names seen on the screen. As the chart (4) shows, from among the cross-section of the movie potential of the surveyed areas, 12.5 per cent of the people who had not been to a movie during the past year said they recalled seeing screen advertising the last time they had attended; and over 45 per cent of these could still correctly name advertisers or products without help of any kind. To state it more simply: Forty-five per cent of the persons who could remember seeing movie ads after a year or more, could correctly name the products or sponsors they had seen on the screen! An amazing story of the powerful impact movie ads have on the average theatre audience.

And, again, age enters the picture. The age group which had the largest representation in the average theatre audience (15-24) years) also had the highest recall of movie ad subjects. This group is one of the most important for an advertiser to reach. It includes youngsters freshly graduated from high school and out buying things of their own; and young newlyweds making purchases for their own homes. The Sindlinger survey has shown that this group not only constitutes the largest part of the audience viewing an advertisers' films but is also the group that remembers what it sees better and longer than the other groups (ranging to 55-years-old and over).

TV's Role

What about television? How does it affect theatre screen advertising? Since TV cut down on theatre attendance it might be expected that the reduced rate would produce a situation where the non-television owner, with a higher rate of theatre attendance, would have a greater recall factor than the teleset owner who spends a big portion of his time in front of a TV screen rather than at the movies. As logical as this sounds, the reverse was found to be true. The non-television owner was exposed more often to movie ads but his remembrance factor was not as high as that of the TV set owner. This was attributed to a certain conditioning of the owner to a type of screen advertising, making it easier for him to accept movie ads as part of the theatre program.

CONCLUSION

To sum it all up, theatre screen advertising delivers more for the advertising dollar than any other medium — more impact, more penetration. Movie ads are viewed by big captive audiences relaxing in the darkness of your theatre with nothing to distract them from what is appearing on the screen. The magic of sound, action and color on the big screen, with no competitive advertising, is a powerful combination that gives movie ads a tremendous impact quotient and high remembrance value. In short, theatre screen advertising provides double dividends — it pays the merchant to use it and it pays the theatreman to screen it. Movie ads work two ways for the theatreman: They bring in that "extra paycheck" each month from the film company; and they reap a harvest of goodwill through cooperation between your theatre and local businesses.

ONE OF THE most important factors in determining the effectiveness of screen advertising was that of age. As would be expected, the age group which had the largest representation in the average theatre audience was that which ranged from 15 to 24 years of age. This group had the highest movie ad recall.

Reduce Utility Costs

One of the Leading Utility Experts Explains How it is Possible to Obtain Substantial Reductions in a Theatre's Utility Charges

By E. A. WEEKES, P.E.
Consulting Engineer

BRIEF: ***In these days of rising costs . . . it is more important than ever that the operator of a motion picture theatre do all in his power to institute economies in his operation . . . without of course endangering his business . . . Although the prudent exhibitor may keep careful records . . . he rarely questions his bills from the electric power company . . . With the new projection and sound systems . . . and the increased use of air conditioning equipment . . . the average theatre is now using more electric power than ever before . . . This article will give the reader a number of surprises about his electric bill . . . and how it is possible to obtain substantial adjustments in power charges . . . as well as some of the many ways in which an exhibitor may get refunds for errors made by the power company . . . As the author points out . . . it is not the responsibility of the power company to charge the lowest rates available . . . this is something that the customer must request . . . With a number of actual case histories to explain the various ways in which proper supervision may result in savings . . . this article could be of great value to the reader.***

Today, when cost-minded theatre executives are ever on the alert for means of reducing operating expenses, it is perhaps timely to stress the importance of maintaining constant, adequate, supervision over expenditures for electric service.

In almost every organization, payroll, tax payments, coasts of materials and supplies, etc., are carefully scrutinized and checked. On the other hand, bills received from utility companies for electric service usage are frequently paid after the most cursory review; the personnel of the average organization lacks the technical training, qualifications, experience or information for the proper checkup on such billings.

Bills Not Checked Carefully

In many cases, the utility companies' bills do not show cost details of the applied rate pertaining to the metered service usage—demand or energy, or other items upon which the billing depends. In some cases, postcard bills as rendered by utility companies show only meter readings, energy consumption, and the amount payable, on accounts where the applicable total charge is based not only on the energy consumption, but on the measured monthly demand, load factor, a fuel adjustment which varies from month to month, and an applicable sales tax item.

Customer's Obligation

It is *not* the obligation of a utility company to bill any customer on the lowest of optional billing bases or arrangements which may be available for his electric service requirements. Where a choice of billing basis exists, the selection of billing basis is solely the customer's responsibility. To assume this responsibility intelligently, the customer must be familiar with the load conditions and operating requirements of the particular property, and be informed on the details of all of the available rates, their provisions and riders, as they exist and change from time to time. Also, he is expected to have the technical knowledge necessary to evaluate the different factors influencing service costs under these various rate provisions and riders.

Case Histories

The importance of according adequate supervision over contract rate matters is best illustrated by a few case histories, typical of what we are constantly encountering in supervising clients' utility accounts:

(1) Checkup on a utility system's rate schedule revealed that their General Power rate was available for combined lighting and power load service requirements when the total connected power load was at least 75 HP. We obtained a discontinuance of separate billing for the client's service requirements for lighting load, and a combined billing of his total service requirements under the General Power rate, with a resulting reduction in the client's electric service cost at that location of $1,375.00 per year.

(2) Analysis of a client's billings revealed that the utility company through error was charging for 10 times actual usage, on a seasonal account. Refund of $2,675.27 was obtained in adjustment of

IN TODAY'S modern theatre such as the one seen, the proper illumination of the front is very important, meaning much greater use of power.

overbillings for two prior operating seasons. The savings for the next two operating seasons were $2,353.54 and $1,824.15 respectively.

(3) Checkup on a utility company's load count, upon which the billing demand was being based, revealed it to be inaccurate. This was corrected at our request, with a resultant reduction of $325.00 per year. Through the application of a contract rider, for which the client was eligible upon request, client's demand charge at this location was reduced by an additional $400.00 per year.

(4) A utility company presented a claim for approximately $4,700.00 to one of our clients, based on an alleged underbilling over a period of years due to an improper meter connection. This amount was represented as the minimum they would accept, as it had been supposedly most conservatively figured, and the actual alleged underbilling was stated to be a considerably higher amount. We were able to have this claim canceled in its entirety, after presenting and arguing certain technical factors, which the utility company eventually conceded to have substantial merit.

(5) Analysis of a client's account revealed that low power factor was responsible for an added $750.00 per year in electric service cost. Upon our recommendation, capacitor equipment of appropriate capacity was installed for power factor improvement purposes, at a cost of $700.00, upon which investment the client is enjoying a $750.00 per year saving on electric service cost for that property.

(6) Billing demands for load supplied through a client's meter appeared excessive, in view of the connected load. We requested the utility company to test the demand indicator for accuracy. They subsequently reported that a shop test showed the meter to be operating at 100 per cent accuracy and that they had, accordingly, reinstalled the meter. Further inquiry revealed their shop test had been for watthour registration only and that they had not checked for accuracy, the mechanism actuating the meter's demand indicator. A new demand meter finally was installed alongside the existing demand meter for check purposes. Eventually, the utility company conceded the improper functioning of the original demand meter, and refunded $892.68 to our client for approximately two years' excessive demand charges. And of course, the client's electric service cost decreased by better than $400.00 annually with proper metering.

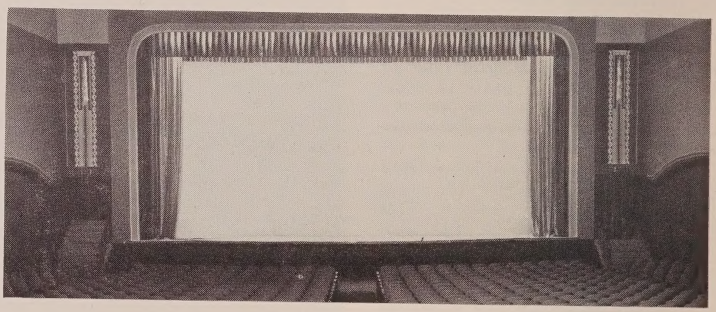
(7) Analysis of a client's account revealed that a saving of about $1,550.00 annually would be obtained under his existing rate application, through attention to the method of operating his air conditioning installation, while not interfering with his actual air conditioning requirements. A new contract was executed with the utility company to conform to the desired applicable maximum and minimum billing demands, to obtain this operating cost reduction.

(8) The applicable rate on a client's account called for a recording type of demand meter, because monthly billing demands, under the rate as on file with and approved by the State utility commission, was stipulated as being the greater of monthly on-peak maximum demand or 50 per cent of monthly off-peak maximum demand. Checkup revealed that the utility company did not have a recording type of demand meter installed on this account, but a demand indicator which showed only the highest demand reached during the month with no record of the time or date established. In other words, monthly billing demand was being taken as 100 per cent of the greater of on-peak or off-peak demands, in violation of the rate schedule provisions. We had this condition corrected promptly, with a saving to the client of about $500.00 annually, and negotiated appropriate refund from the utility company.

(9) Upon our recommendation, a client engaged an electrical contractor to make the wiring changes necessary to consolidate lighting and power loads on a new contract billing basis. The utility company advised our client not to proceed with our recommendation because no advantage would thereby be gained. We disagreed with the utility company, advising them that our client would hold them responsible for any excess electric service cost incurred as a result of delay in proceeding with wiring changes because of misinformation given by the utility company. A strike and subsequent material shortages delayed completion of the recommended wiring changes. When completed, the client's resulting reduction in electric service cost was approximately $1,000.00 per year, and we obtained a refund check for the client for $1,194.21 covering the excess electric service cost the client had borne because of delay in completion of wiring changes for which the misinformation given to him by the ultility company initially had been responsible.

(10) A utility company with the approval of the State utility commission increased the minimum billing demand under its Primary Service Rate from 60 KW to 100 KW. When new contract forms were submitted by the utility company for the client's execution, upon our recommendation they were not accepted, as his annual demand charges thereby would have been increased by over 50 per cent. We filed a protest with the State commission, argued the matter by correspondence with the Commission's Rate Engineer and, despite the fact that the increase in billing demand had already been granted by the Commission after protracted hearings, we were able to have the matter reopened for further study and hearings by the Commission, as a result of which the Commission reversed its earlier ruling and ordered the utility company to reinstate the minimum billing demand at 60 KW. The resultant saving to our client exceeded $600.00 annually.

(11) Analysis of a client's account revealed that a combination billing of his electric service requirements supplied through five meters was costing him $1,100.00 annually in excess of what his electric service cost would be with individual service accounts for each meter. A small wiring change would increase this service cost reduction by another $215.00 per year.



WITH THE introduction and acceptance of the wide screen form of film presentation, theatremen had to put in equipment which required greater use of power, making a study of utility charges important.

(12) At another location of the same client referred to under (11), in the same city and with the same utility company supplying service, analysis revealed the air conditioning load was being billed under the more costly of optional available billing bases, at an added cost to our client of about $850.00 per year. On the service account for his other requirements at this location, checkup disclosed an overbilling of about $1,150.00 annually which was being occasioned because of improper rate application.

Proper Supervision

Where excess electric service costs have been incurred by a customer's failure to apply specifically in writing for a more advantageous billing basis available to him, the customer has no legal right to recovery therefor. The foregoing case histories point up how costly it can be to fail to maintain constantly, the proper supervision over billing arrangements for purchased electric service.

Under certain circumstances, refunds may be obtained based on rerating of accounts, and we have obtained for our clients many thousands of dollars through negotiations of such character. Aside from matters of account analysis, rate selection, and rate applications,

DRIVE-IN theatres, as well as conventional roofed houses, find themselves using more and more power. Utility charges now make up a good part of the overhead, and the bills should be carefully studied.

overcharges of many varied natures occur in the rendering of monthly bills for electric service. These may be caused by meters being out of order, incorrect readings, confusion of records, application of wrong constants, errors in rate interpretation, arithmetical mistakes, human and machine failure, etc. Quotations from typical letters on such overbillings are self-explanatory:

"Please accept our thanks for the refund check in the account of $1,110.78 from the ———— Service Company in connection with overcharges and subsequent revaluation of the rates chargeable for power consumed."

"We have today received check for $2,432.94 from the ———— Light and Power Company representing an adjustment credit on the electric service billed at this theatre."

"We have investigated the billing of the ———— account from November through April as you requested in your letter of October 3rd. It was found that the meter we regarded as 'all loads other than air conditioning' actually measured the air conditioning directly. As result the bill for this period was incorrect. Corrected billing resulted in a credit of $365.75."

"This is to confirm receipt of check for $850.77 representing credit for the difference between Rate CB and Rate CD."

"In answer to your leter of April 25, 1955 we wish to state that the credit of $684.75 has been approved and has been applied to the credit of the ———— Theatre. The adjustment cover the period of 10-27-52 to 1-29-53 during which time the theatre was overbilled $27,390 KWH @ 2.5c per KWH amounting to $68.75."

"We received a letter from E. A. Weekes of New York City calling attention to certain errors in billing for electric service at the ———— Theatre and claiming an overcharge of $795.07. We have since checked this claim and have verified that the amount is correct and we are enclosing check for the full amount."

Rate Selection

As specialists in the field of utility service cost matters for over a quarter century, and with the experience in dealing with utility companies thereby obtained, we imply no criticism of any utility company or system. The purpose of this article is to remind the reader that as a utility customer, he has the responsibility of rate selection, that rate structures are technical and complex, that many errors are made in billings for electric service, and that as a matter of good business management, all expenditures for electric service should be expertly supervised. It is not a task to be entrusted to a comptometer operator, bookkeeper, etc., or even an engineer or accountant unless such has the proper background of experience in this specialized field.

CONCLUSION

If the individual in your organization approving for payment your electric service bills can answer yes to the following 10 questions, you are reasonably safe in entrusting this responsibility to him; if not, your expenditures for electric service are not receiving the expert supervision such heavy operating expenses warrant:

(1) Do you know that utility companies are not obligated to acquaint their customers with their various rates or the details of rate provisions or riders related thereto, available for their service requirements?

(2) Do you know that the utility customer is responsible for the choice of contract billing basis, where a choice exists?

(3) Do you have the technical knowledge necessary to make service cost comparison studies under different rates or combination of rates, for your load conditions and service requirements?

(4) Do you have the complete knowledge of load conditions necessary for such studies?

(5) Do you know whether you are being billed in accordance with the most economical billing arrangements available to you?

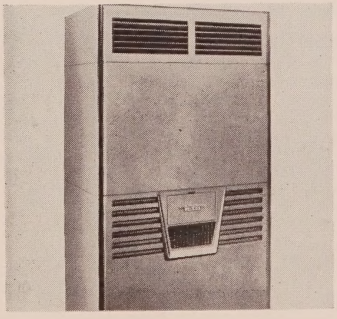
(6) Do you know that refunds may not be obtained from utility companies, against billings which may have been rendered and accepted on other than the most advantageous of available billing bases?

(7) Do you keep posted on all changes in utility rate schedules affecting your properties and analyse their effect on your operating costs?

(8) Are your utility service bills closely and adequately checked to determine whether all of the many matters affecting service costs are in order? Do you rely wholly upon the knowledge and accuracy of utility company personnel in such matters?

(9) Do you fully understand Billing Demand? How it is determined? If measured, and on what basis and by what type of metering?

(10) Do you know whether certain operating practices or load conditions are penalizing you in the form of increased electric service costs?



ANOTHER large, but very important user of power in a theatre is the air conditioning system, which means closer attention to utility bills.

Information Please

A Look at a Few of the Devices Designed to Automatically Answer Telephones, Take Messages, and Give Sales Talks

BRIEF: ***The successful operation of a theatre . . . in the long run . . . is the result of the proper amount of attention given to many small details . . . One of the many time-consuming . . . but necessary . . . tasks for the staff . . . particularly the cashier . . . is the answering of telephones to give out information about the program . . . This article discusses some of the devices on the market which can make it possible to take care of such phone calls automatically . . . and in a much more satisfactory manner than could be expected from a cashier who gradually becomes tired and annoyed after trying to take care of the telephone and sell tickets for a few hours . . . These devices also leave the theatre staff free to devote more time to serving the customers already in the theatre . . . A number of other devices . . . in a similar category . . . are also described . . . There are explanations as to how these devices may be best put to use . . . how they operate . . . etc.***

Every theatre cashier who has been faced with handling a long line of patrons purchasing tickets and the telephone constantly ringing by prospective customers seeking information about what is playing and what time the features go on, has probably wished for "something" that would answer the telephone for them, or make it possible to handle both these tasks at the same time. At the present time there are a number of devices available which have been designed to act as an assistant cashier.

Peatrophone

The Telephone Answering and Recording Corporation has developed a device called Peatrophone which will automatically accept incoming calls and deliver a prepared message. If desired, the unit will also record any message which the caller may wish to leave.

How It Works

Actually the Peatrophone is a double phonograph and recording machine. To record a message that will be heard by incoming callers the user places a small four-inch disc on the turntable, presses the "record" button and then speaks the message into the telephone. If an answer is desired, he then instructs the calling party when to start talking. The "talk-out" record is then placed on the small turntable. A larger record is placed on the other turntable, the "automatic" button is pressed, and the unit is ready for action.

In order to receive the recorded incoming messages the user places the pickup arm on the large record and presses the "playback" button. By pressing the "off" button the telephone is ready for normal manual operation.

In most cases the theatreman would not be interested in recording incoming messages. In that situation, the record arm is left on its hook, and the machine acts as an answering device only.

An Example

After renting a Peatrophone unit, they cannot be purchased, the exhibitor can record a message similar to the following:

"Today the Bijou Theatre is showing an excellent program. The main feature is the Academy Award winning film, 'On The Waterfront' starring Marlon Brando. We feel sure that you will enjoy this powerful drama. It will be shown at 4:25, 7:25, and 10:10. The second feature is the exciting, 'Tarzan's Hidden Jungle.' We hope you will join us for an entertaining evening at the movies."

Once the message is recorded all theatre ads would carry the telephone number that the public should call for information about what is playing and when. This simple procedure will eliminate the need for the cashier to keep a ticket-purchaser waiting while she answers the telephone.

Construction

The Peatrophone is designed to operate on either automatic or magnetic systems and should ring on only two milliamperes. However, a delay circuit is provided to prevent it from ringing in on false pulses or "transits" on the line. The length of the "talk-out" message is fixed at a maximum of 30 seconds, and the incoming message is limited to 23 seconds between tone signals, with a three second grace period after the last tone signal. However, it is possible to obtain units that will enable the use of longer recorded messages.

The amplifier used in the unit is so sensitive that it is possible to record messages which canot be heard by the human ear, and the recording can be played back at a normal level.

After the machine is set up for automatic answering, all functions are automatic with the exception of moving the pickup arm from the "talk-out" turntable to play back the recorded incoming message. When the playback button is depressed the record arm is lifted automatically and set over the proper distance from the next group of

THIS CARTOON depicts one of the most common and perplexing aspects of the cashier's job, that of selling tickets and answering the telephone, and how mechanical devices can alleviate the problem.

THE PEATROPHONE IS A double phonograph and recording machine, and is able to answer the telephone, also give a message as well as take a message, if desired. It could be of use in a theatre.

mertone baked lacquer, but can be obtained in other colors and finishes if desired. The name and model number is engraved in the lid, and a place is provided for the name of the operating company.

The Recording

The recording is produced by a highly developed embossing process which provides over 60 minutes of recording on one side of an eight inch record. This is accomplished at 15 revolutions per minute and 360 lines to the inch. The turntables are driven by separate motors through molded rubber idler wheels. The turntable centers are splined so that the record can be dropped on in any position.

The recording arm travels laterally on a track using longitudinal ball bearings. The lead screw is mounted on pivot point ball bearings. The recording turntable is mounted on one ball bearing and one self-lubricating bearing. The pickup arm is mounted on a special torque tested instrument type ball bearing, and one needle bearing. All other bearings in the machine are of the self-lubricating type. All shafts are stainless steel with the exception of the lead screw, which is brass, chromium-plated.

The chassis plate is aluminum 3/16 of an inch thick, while the legs, bottom plate, and other supporting members are of black enameled steel. All springs and pins are of stainless steel. All steel working parts are zinc Lustroned.

The turret that controls the pickup arm is molded nylon, while the gear on the lead screw is a full cut nylon gear. The clutch gears are brass with the pinion riding on a stainless steel shaft. The timer motors are Hayden synchronous shift motors returned by stainless steel flat springs. All relay and switch

recordings. When the automatic button is again depressed, the rear turntable makes approximately two revolutions, which lowers the recording needle onto the record and provides a lead groove of one revolution.

When the record is filled with messages, the "limit" switch shuts the machine off, but it cannot shut off until the completion of the last message. The ringing circuit is so designed that the machine cannot be rung in until it has completed its last cycle and returned to its starting position. It is thus impossible for a calling party to get in on part of a message.

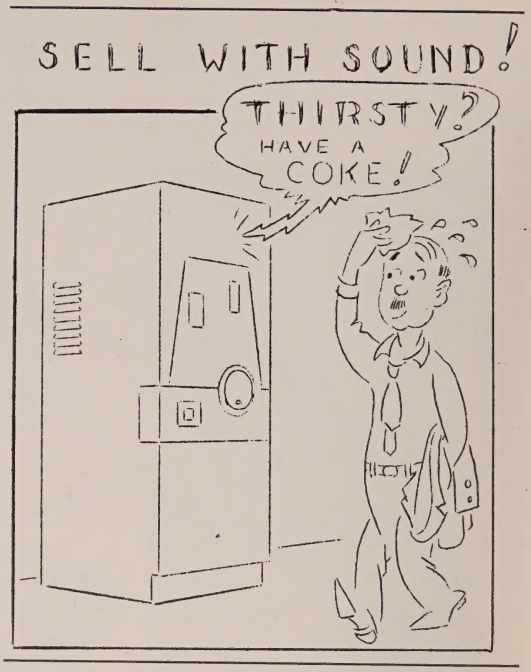
Installation

The Peatrophone is provided with ties for every type of cord used on standard telephone equipment. In the average location, the machine should be placed next to the telephone. However, if this is not convenient it can be placed in another room with an extension telephone connected parallel to the local line.

The unit weighs approximately 37 pounds and is about 10 inches wide, 14 inches deep, and eight inches high. The case is finished in brownish-gray ham-

THE FONADEK makes is possible to speak on the telephone without having to hold the receiver. It is another device that exhibitors could use.

SEEN (left) IS the Message Repeater unit which can be used to give a sales message or tell a patron what time the feature goes on. Seen on the (right) is a cartoon illustrating how this unit may be used to help sell a soft drink. It could be of great value to boost concession sales.



blades are nickeled silver with bifurcated Western Electric cross bar contacts.

The case is fabricated of sheet aluminum 3/32 of an inch thick and held on the chassis by two hidden latches, located under the front and rear shields. The machine is designed in three sections to give quick and easy access to every part.

Advantages

One of the advantages of using the Peatrophone to give out program information is that during the busiest hours all of the staff is free to take care of patrons without having to worry about answering the telephone. Another is that when the device answers the theatre phone, it acts as an indefatigable salesman who will not become tired or annoyed, and thus not lose any customers. The last caller of the day gets the same warm courtesy as the first.

The manufacturer estimates that it would cost about $12.50 a month to rent a Peatrophone device.

Fonadek

Another device available to theatre operators who wish to ease the telephone answering burden is called Fonadek.

Fonadek is a compact unit that takes up only a few square inches of space and could be easily fitted in a ticket booth. The operation of this device is simple. When the telephone rings the receiver is placed on the Fonadek unit. Both ends of the telephone conversation are then amplified. This means that the cashier will be able to answer the telephone and still have both hands free to continue selling tickets to waiting patrons. The system is also used when placing a phone call.

Another area of theatre where this device could be of value is in the manager's office. Very often it is necessary for him to write messages down, consult records, etc. With Fonadek, it is possible for the manager to be at a filing cabinet at one end of the room and the telephone on his desk, and by speaking in ordinary tones the other party will be able to hear him. There is a volume control button on the device which enables the user to make the voices louder or lower.

Fonadek is made in England and widely used in that country. The device requires no plugging in and no installation is necessary since the unit runs on ordinary batteries. The cost is not prohibitive, and a unit can be purchased quite a bit under one hundred dollars.

Message Repeater

In addition to ways and means of easing the telephone problem, there are other devices on the market which can relieve staff members of some tedious chores, in addition to adding a bit of showmanship to such a simple thing as informing a patron what time the feature goes on.

One of these devices is manufactured by Michigan Electronics, Inc., and is called the Message Repeater. Small in size, taking up no more space than a simple camera, the device automatically gives its message whenever a person passes by. The Message Repeater could be set up near the boxoffice and give a message which tells what the features are, what time they go on, and possibly what the next attraction will be. This can avoid the situation where a possible patron is frightened off by a line at the boxoffice, when actually many of the people on the line are merely seeking information as to when the picture will go on. It also will appeal to the average American's love for gadgets, and add an interesting feature to a very simple task.

In addition to using the Message Repeater on the outside of the theatre, it can also be used near the concession stand, where it can give a short sales talk whenever the unit is approached.

The device is simple to use, working very much like a tape recorder, only it will repeat its message without having to be rewound. To record a new message it is only necessary to flick the switch from "play" to "record." Then by reading the new talk into the machine the old message is automatically erased and the new one ready for instant use. There is also a volume control so that the unit may be made loud enough to be heard over lobby noises, and low enough not to disturb viewers inside the theatre.

CONCLUSION

What has been presented here are merely three examples of the type of devices available to the theatreman who is seeking ways to improve his service to his patrons, and relieve his staff of unnecessary tasks. This does not, by any means, exhaust the various types of machines on the market that are designed to automatically answer telephones, take messages, give sales talks and information, etc.

A Mobile Billboard

Exhibitors Can Use the New Travel-Ad Throughout the Drawing Area of Their Theatre in Order to Inform and Attract Patrons

By George Dembow
President, National Screen Service

BRIEF: ***The finest projection and sound equipment . . . located in an attractive and well kept theatre . . . and showing top product would all be wasted if the exhibitor did not advertise and publicize his theatre and his programs . . . This article describes a recently introduced device which makes it possible for a theatreman to have an attractive billboard that can be placed on the top of an automobile . . . and transported throughout the theatre's drawing area . . . There is a description of how the device is constructed . . . how it is used . . . and how it may be converted into a permanent billboard whenever so desired . . . This is a low cost item which should more than repay the user with its eye-appeal and versatility.***

When it comes to forward-looking showmanship as an aid to motion picture exploitation, National Screen Service has always served the industry well.

The 35-year history of this organization is studded with many "firsts." Hollywood shadow box displays, standees, display-aways, door panels . . . all innovated by National Screen . . . are just a few of the many accessories that have helped exhibitors to boost their boxoffice business.

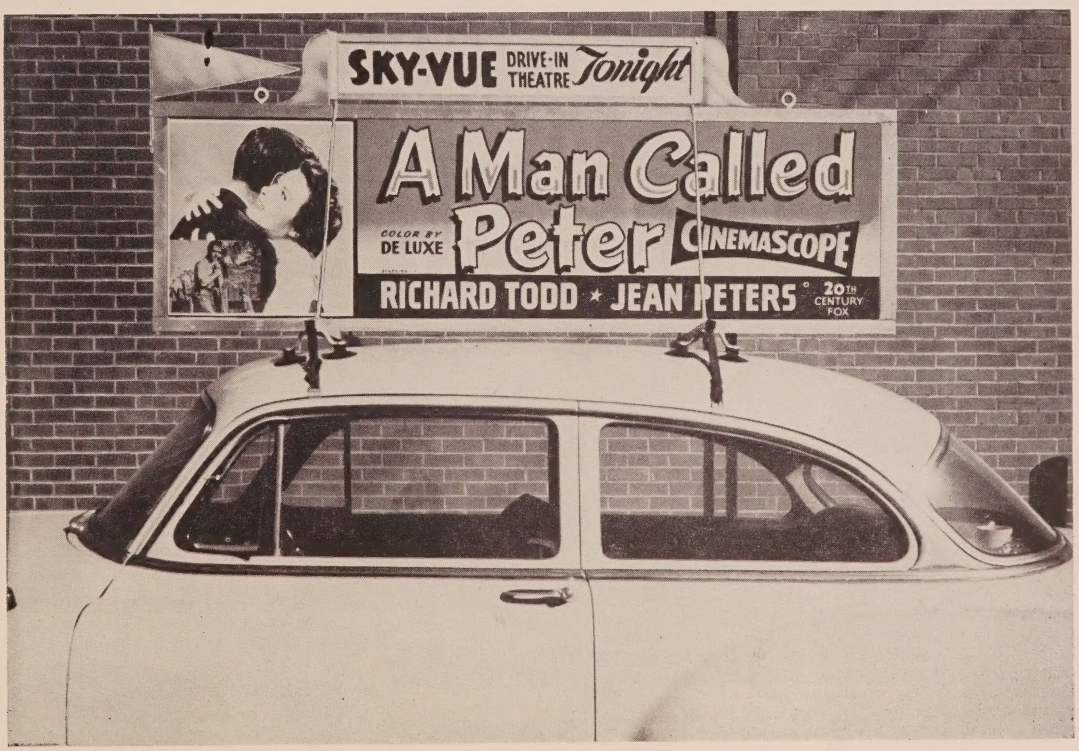
Ever on the alert for new and better means of serving and servicing the industry, we have now come up with what looks like one of the most solid selling ideas in years. With the development and introduction of Travel-Ad, N.S.S. has hit upon an exploitable new approach to mobile outdoor advertising . . . one that the smallest situation can afford. This new accessory provides day and night moving billboards to cover an entire community for big drive-in draw, or to attract street and pedestrian traffic for conventional theatres.

New Approach

Travel-Ad is intended for use by the manager and theatre staff on the tops of their cars. It provides a permanent mobile billboard for any exhibitor's drawing community, requiring only a change of the 24 by 82 N.S.S. serviced banner to advertise current or forthcoming features. In many spots local merchants tieing-in with special theatre promotions, have also used Travel-Ad frames on their cars and small trucks to spread word of their cooperative promotions with the theatre.

On the move, or parked near busy highways, beaches, ball parks, etc., Travel-Ad affords the cheapest form of potential audience coverage. No matter where your car takes you . . . no matter where you park . . . no matter the time of day or night . . . your Travel-Ad is always at work for you . . . selling your show . . . and pointing the way to your boxoffice. Just by cruising around town during the busy periods of the day (lunch time, shopping hour, etc.) you'll

AN ECONOMICAL and easy to use device, the Travel Ad is designed to fit on top of an automobile making it possible for an exhibitor to cover a wide territory with banners advertising current and future attractions. The low cost of the mobile billboard and its eye-catching value are key features.



IN ADDITION to its use atop of autos, the Travel Ad may be used in drive-in theatres (above) and conventional houses (below) as a permanent unit.

space for billboarding second features, shorts or special events.

This ingenious frame itself serves a dual purpose, for it is not restricted to mounting on cars. It has been equipped with heavy "U" bolts, so that when not in use as a traveling piece, it may be hung from a marquee for conventional theatre use, or at the entrance and exit of drive-ins, where usually there exist poles with a cross bar from which the Travel-Ad frame can be easily hung.

Attracts Patrons

Acceptance of the Travel-Ad frame has been tremendously gratifying. Typical of the reaction to this unique service is the comment of Bob Anderson, a Burien, Washington, exhibitor: "Once in a blue moon someone in this business comes up with a really new and practical ticket selling idea. National Screen has done just that with Travel-Ad. For my money it's the best possible answer to low-budget away from the theatre advertising. The Travel-Ad is an attention-getter wherever I go. With the flashy paper available that means it's a business getter as well!"

N.S.S. makes Trave-Ad available on a rental basis, or through the National Screen Travel-Ad banner sales plan. There is also a rental service available on the 24 by 82 banners. Now exhibitors can inexpensively "mobolize" their advertising.

Travel-Ad is an accessory that will become one of the staples of smart showmanship.

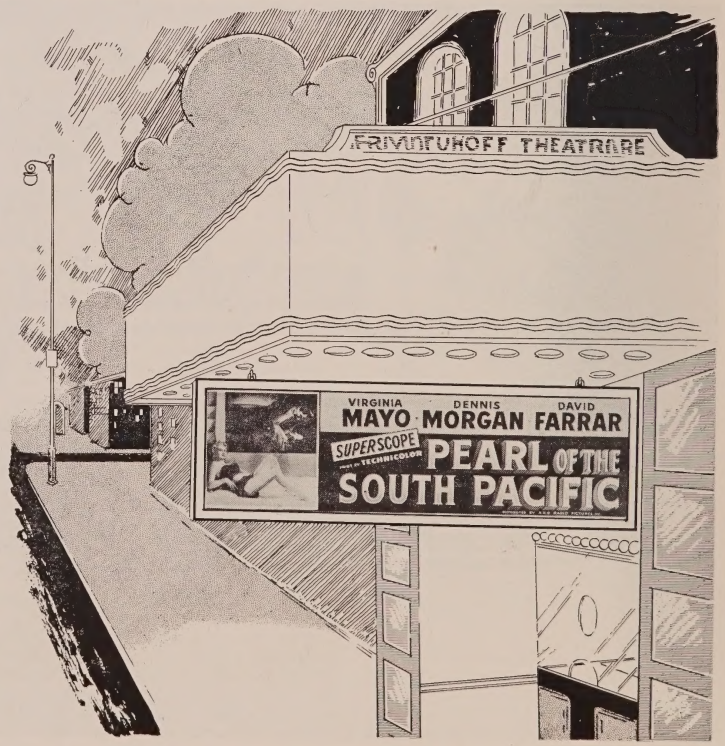
find your eye-appealing Travel-Ad reminding folks where and when they can see your show!

Car Top Frame

Specifically, the Travel-Ad banner is a sturdy, all aluminum double-faced frame, that can be mounted on the roof of any hard top automobile without scratching or marring the surface. The easy-to-assemble Travel-Ad unit comes complete with ski-type mounting, consisting of two cross bars to which are attached clamps and clamp straps similar to the metal racks you have seen on top of cars to hold skis. Simple five-minute installation is possible, without any drilling or damage to the vehicle. All parts of the Travel-Ad unit have been designed and tested to withstand high wind pressure.

Exhibitors can arrange to affix spotlights for night use by hooking these up with their car battery, or if necessary, to an auxiliary battery placed in the trunk or body of the car. The frame accommodates a 24 by 82 banner in silk screen color. This banner, another part of our regular National Screen service, incorporates color, show selling ad lines, smart and appropriate photos, and the tops in art work . . . in other words, an advertising piece that really sells your show! In addition to the color banner, the Travel-Ad frame has an aluminum "fin" atop the frame providing space for display of theatre name and playdate. Then too, an aluminum pennant, on a staff at the front, allows

Heavy "U" belts are furnished in order to make the installation a simple matter. The Travel Ad may always be removed and reused on an auto.



Service With Charm

An Explanation of Why and How a Leading Theatre Circuit Sent Its Female Employees to a Beauty and Charm School

By Paul H. Lyday
Publicity Director, Fox Inter-Mountain Amusement Corp.

BRIEF: ***In order for conventional theatres to successfully compete with the many other forms of amusement and recereation available to the public . . . every effort must be made to make these theatres pleasant places to visit. . . . In addition to showing fine films . . . using the latest projection and sound systems . . . today's exhibitor must offer the public pleasing surroundings . . . and even more important . . . a staff that will supply the personal touch that makes for regular patronage.***

This article describes the reasons why one of the leading theatre circuits decided to make a regular practice of sending its female employees to a charm school for a full course in posture . . . walking . . . personal grooming . . . etc. . . . It explains how the course was conducted . . . and what the theatre operators hoped to achieve . . . In addition . . . the article discusses other fundamental phases of staff training that should prove of interest to all theatremen.

For the past several years, in fact since bad movies, television, drive-ins and other froms of competition began to take a heavy toll in four-wall theatre boxoffice attendance, smart showmen throughout the entire industry have been suggesting various means and practices to bolster our business. One of the means most often mentioned is the instituting of greater and better service to our patrons from our theatre staffs.

Better Service

In the Fox Denver theatres, our managers have worked consistently to insure their patrons of service second to none. The cashiers, doormen, concession girls, ushers and usherettes are trained for courteous, efficient performance in each of their duties to the public.

But we have felt that the winning back of our straying patrons would take something more than just plain *service*. We felt, perhaps, that on the part of our feminine employees, we could offer our ticket buyers not just *service* but *service with charm*.

In line with this thinking we contacted Cesare Morganti, operator of Denver's foremost modeling agency and modeling training school. We proposed to Morganti that he set up a special training class for our feminine employees which would make them more attractive, charming young ladies. Morganti accepted the challenge with enthusiasm and, in August of last year, 60 usherettes, cashiers and concession girls from 10 Fox theatres turned out for the first class in this glamorous new concept of theatre personnel training. The program was set up for a period of 12 weeks, and included training in posture, carriage and personal grooming. The classes and exercises were tailored specially for these particular girls by Morganti and his head modeling teacher, Betty Gold, with the specific purpose of making these young ladies more personable employees.

Permanent Operation

Denver district manager Ray Davis has declared that this program will be a permanent phase of our personnel training. There are now a large number of female employees on the staffs of our various theatres who have successfully completed the course. These are young ladies who have been taught to stand straight and tall with their heads up, their chests out and their stomachs flat. They have been taught to walk without excessive wiggling and bouncing, and even the placement of their feet when they walk has been corrected to eliminate "pigeon-toes" and "duck-feet." They use their hands gracefully, not necessarily because they are naturally graceful, but because they have been trained.

As instructor Betty Gold puts it, "There should be little difference between an usherette leading movie-goers to their seats, and a professional model showing a gown. Their walk, the way they move their hands and their heads should be

BETTY GOLD, instructor from the charm school, shows a theatre employe how to stand correctly while other Fox female staffers look on. This is the initial phase of the special charm school training course.

WITH THE traditional book carefully perched on their heads, members of the class are put through a series of exercises by the instructor, designed to develop poise and balance in the girls walking.

graceful. There is nothing attractive about an usherette chewing gum or standing on one hip, or swinging down the aisle like a drill sergeant." Anyone disagree?

Diverse Charm Program

Included in this charm program is an individual hair styling and makeup analysis. We believe that this combination of correct posture, poise and good grooming inspires confidence in the girls, which, in turn, eliminates giggling and other aspects of the ill-at-ease person. It was our thinking, also, that by glamorizing the usherette's job, we would be able to attract better personnel and this certainly seems to be the case. With the big majority of our girls who have completed this course, there has been a great improvement in their poise and they are doing their work much more graciously than before. By helping our young ladies to become prettier and more charming, we have helped to make the theatre more attractive, to sharpen the feeling of glamour which most of our patrons experience when they attend a movie theatre. This is our "new look" in staff training and we think it can be applied in most of the larger situations in the country.

Fundamentals Not Neglected

Because we began this article with, and devoted so much space to our new charm school training program, we would like to hasten now to assure that we are not neglecting the basics in the training of any of our personnel.

KNOWING the proper way to walk up and down stairs is important for a theatre empoye. Here we see a group being taught to handle this task.

HERE the girls learn to turn without twirling. In this portion of the training they are taught what to do with their hands to avoid awkward positions.

The training of a new employee is handled entirely by the individual manager, and there are undoubtedly variations in this training from theatre to theatre. However, there are a great many similarities. Any time a patron enters a Fox theatre, he or she is greeted by a smiling courteous theatre employee. Our cashiers are educated to the fact that the most important person in their lives is the prospective patron who is standing outside the boxoffice window at any particular moment. Packaging of bills, answering telephones, filling out reports, and all the other myriad duties which befalls a theatre cashier are important, but they are of secondary importance to selling tickets.

When you enter one of our theatres, you will be greeted by a young man, standing by, not leaning on, the ticket-stub box, who is earnestly interested in making you feel welcome at that theatre. The concessionaires' single purpose will be to help you buy something you want, and the ushers and usherettes will be there to see that you get down the aisle and into a seat with the least possible amount of annoyance to you.

We passed over these above patron's services rather quickly, not because they lack importance, but because they are standard practice in our theatres. They may also be standard in a great many other theatres.

Staff Meetings

Another phase of personnel training, which is also standard with us, but which may be unusual in other theatre organizations, is that of periodic combined meetings of the employees of all our theatres.

ONE OF the final phases of the training is individual performances before the group. This is designed not only to test the members of the group on what they have learned, but also to develop self-confidence.

These city-wide staff meetings are held three or four times a year. They are held at non-operating theatre hours to enable us to bring together as nearly 100 per cent of our employees as is possible. For these meetings we arrange a program, consisting of certain specific phases of personnel training. Each phase is conducted with lectures, demonstrations, etc. by a person whom we feel is an expert on the subject. These subjects range from the correct use of a flashlight to how to hang up a uniform. The employees in our group of theatres who are most proficient are used to show those who are less proficient how each job should be handled.

Aside from the practical value each employee receives from this meeting, it has great value as a morale builder. Individuals are singled out for special awards and commendations and we feel that this certainly gives them greater incentive to be better employees.

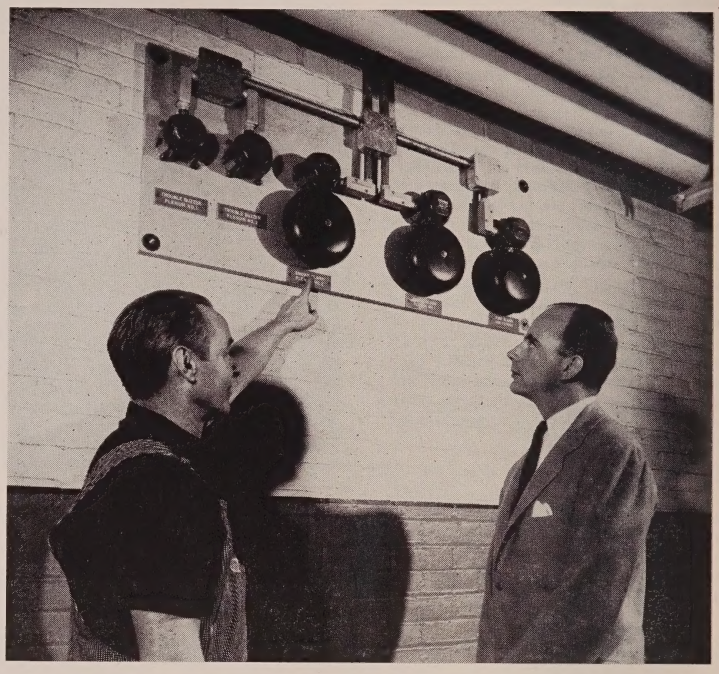
DURING THE 12 week course, each girl is given an individual hair styling and a makeup analysis. They are taught which makeup is most attractive to their complexions, facial features, etc., and how to properly apply them. The result of this course is a staff member that is a credit to the theatre.

Smoke Detecting Devices

The Danger From Panic and Ruining of Interiors As a Result of Smoke Can Be Reduced by Using Smoke Detecting Equipment

BRIEF: *Most theatremen who have had the unfortunate experience of a fire in their theatre . . . will probably agree that the greatest cause of panic . . . and the terrible results of such a reaction by the audience . . . is smoke in the auditorium . . . Quite often the amount of smoke is entirely out of proportion to the seriousness of the blaze . . . However . . . audiences have no way of knowing the extent of the fire . . . and they use the amount of smoke they see as their indicator . . . Another result of smoke which can be very costly . . . is the effect that it has upon the interior of the theatre . . . Even though there might have been a small fire the damage to the rugs . . . screen . . . furnishings . . . and equipment can prove to be just as costly as if there had been a fire of major proportions.*

Being aware of this problem . . . we are offering this article which thoroughly discusses the dangers of smoke . . . and describes various types of equipment and devices which have been developed to detect the presence of smoke immediately . . . and thus help avert the spread of a fire before it can do a great deal of harm.



THIS TYPICAL alarm panel for a smoke detecting system working in conjunction with a carbon dioxide fire extinguishing system contains fire alarm gongs for each plenum chamber, fire alarm for the CO-2 protected air filter, and also trouble alarms for the smoke detecting equipment that is installed.

The possibility of distributing smoke in theatres through forced draft heating or air conditioning ducts poses a real problem for responsible personnel. Not only can smoke ruin interiors, but it can cause panic among people in the structure. In the auditorium, for example, the panic danger outweighs smoke damage.

Smoke Damage Costly

A review of smoke damage insurance losses indicates that claims totalling untold thousands of dollars are paid annually as a result of this type of damage. At the same time, almost daily in newspapers can one find stories describing a hurried vacating of a building due to smoke accumulations — with too many of them reporting injury to occupants or loss of life. No matter how little the actual damage, lingering smoke odor remains a problem.

DETECTION EQUIPMENT

To guard against such occurrences many both public and private buildings have installed smoke detection equipment manufactured by firms like Walter Kidde & Company, Inc. This type of equipment monitors a building's heating system's plenum chambers from which hot air ducts originate.

Frequently the heating, air cleansing, and humidifying equipment upstream of the chambers are surveyed to determine if any part of the equipment, if afire, could generate a large volume of smoke. Most frequently discovered are recirculating oil cleansed air filters which could prove troublesome. This equipment combines two of the basic ingredients necessary for fire—a flammable liquid and oxygen. All that is needed is an ignition source, whether it be a static spark or an electric short.

A carbon dioxide extinguishing system for the filter and a smoke detection apparatus for plenum chambers licks the problem.

How Systems Work

Here's how two Kidde systems work. On each side of the air filter are mounted overhead rate-of-temperature-rise fire detectors. If fire breaks out, the increasing temperature causes these elements to trip cylinders of carbon dioxide installed nearby. Under its own pressure, the fire smothering agent floods from the cylinders and passes through piping to both sides of the filter where it is discharged from Multijet nozzles in sufficient volume to reduce oxygen to a point insufficient to support combustion. The fire virtually is strangled.

Often built into the system's piping are pressure operated switches which are triggered by the passage of the gas. When actuated, they stop the powerful hot air circulating blower and sound electrical alarms. Pull boxes enabling the system to be manually actuated are also available.

The smoke detection equipment comprises type "G" detection boxes, one assigned to each plenum chamber. Each detector continuously tests air samples from its chamber by means of photo-electric cells.

If a sample contains smoke, the smoke reflects light onto the cells increasing their output. This increase triggers alarms and also stops the blowers. These danger signals normally sound in the same locations as do the oil filter alarms.

Unattended Areas

Smoke detection equipment for the average theatre probably has no economical application other than in conjunction with heating or air conditioning systems. However, many theatres have many areas normally unattended during show-time hours. They may be in the basement, backstage, rest rooms, or the like. Similarly, when the

theatre closes for the night, the entire structure normally is unattended. In both examples, a fire could be completely out of hand prior to its being discovered. The entire structure could be threatened.

The answer to this problem possibly lies in the installation of Kidde-Atmo fire detection equipment. This moderately priced device works on the temperature-rate-of-rise principle and is suited for installation in any areas of a theatre.

It comprises a thin copper tube (.080-inch outside diameter) which comes with a variety of different type fasteners. This means that regardless of the type or design of the theatre, it can be installed without marring interior decor as it can be painted over, run along moldings, or similarly concealed. Every linear 1000 feet of tubing terminates at a detecting device.

Any undue temperature rise in a protected space causes an expansion of air in the tubing. As both ends of the tubing terminate at a detector, this expanded air moves in opposite directions through the tubing and enters the detector. There it acts on two opposing diaphragms and forces them together closing an electrical circuit which sounds an alarm.

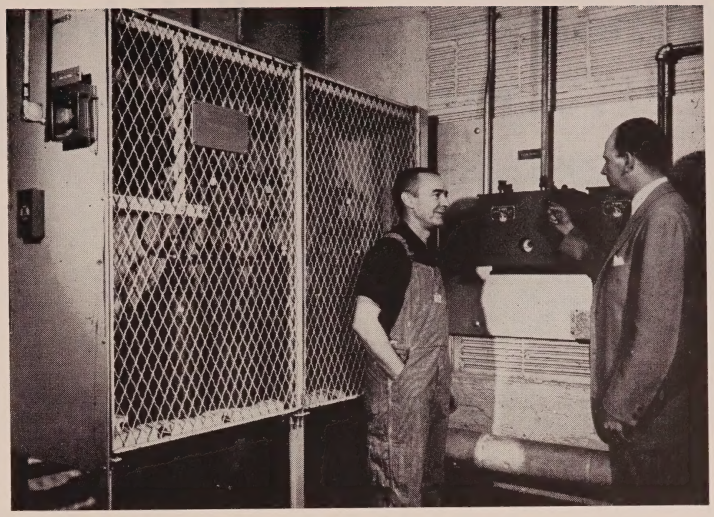
Eliminates False Alarms

Incorporated in the detector's design are features which eliminate the possibility of false alarms from normal temperature changes and even sudden, short surges of heat. Such air pressure increases are compensated for by two hollow, closed cylinders which cushion any sudden or momentary expansion of air in the circuit. These cylinders pass the air up through breathers which release it to the outside atmosphere at a predetermined rate.

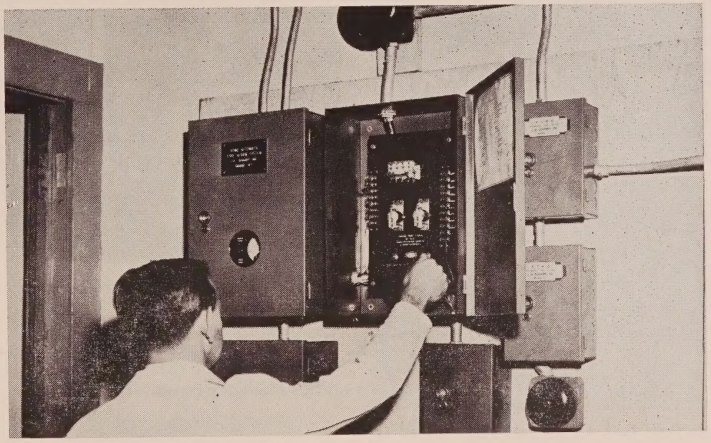
A slow gradual rise, or a sudden but momentary rise in temperature resulting in an expansion of air in the tubing will not actuate the detector since any moderate excess air reaching the detector can be absorbed by the compensator cylinders and gradually discharged. However, an abnormal continued rise in temperature, such as fire produces, causes the air to expand in the circuit faster than the breathers can discharge it. As a result, the pressure is passed on to the diaphragms which are forced together, actuating the alarm.

In addition to positive protection, the system is self-supervising. Outside power failures do not affect the operation of the detecting-alarm system. A self-charging wet battery electrical supply automatically cuts in, if outside power fails, and a warning signal sounds. The batteries deliver up to 60 hours of emergency power for the system.

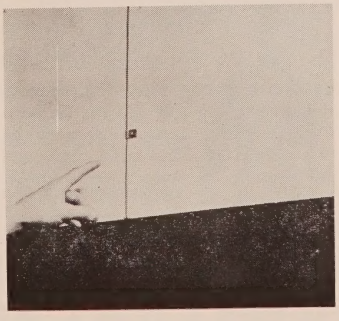
Detection can be zoned to give the exact location of the danger, so that fire extinguishing equipment can be brought into use without loss of time. It will sound a local alarm or transmit the warning to a central fire station. The alarm circuit can be connected to a municipal fire headquarters, so that an alarm is transmitted there as soon as the system detects fire. At the same time, the system will electrically control the stopping of motors, fans, blowers and closing of doors.



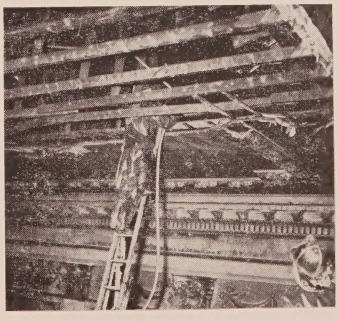
THE MAINTENANCE MAN is shown how the equipment works. If a sample of air contains smoke an alarm is triggered by a photo-electric cell. The alarm may sound locally, at several locations, or be flashed to municipal fire headquarters. System is approved by the Underwriter Laboratories.



THIS MAIN CONTROL board of an existing Kidde-Atmo system receives a fire signal, rings alarms, causes the area containing fire to register on several indicator panels, and alerts fire department.

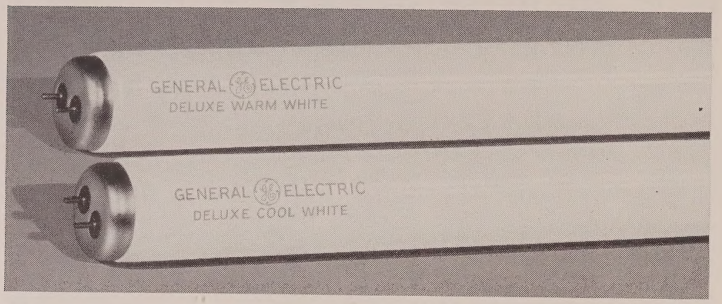


THE FIRE detecting tubing's small diameter is seen here. Note how easily tubing can be curved.



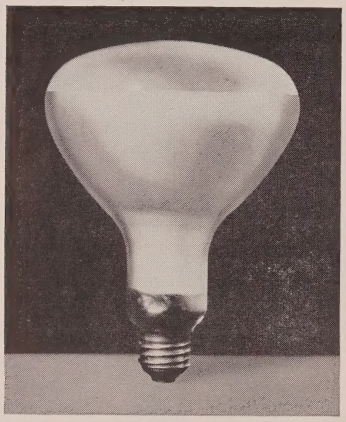
SMOKE DETECTING system can avoid fires such as one that gutted this motion picture theatre.

Whatever your lighting problem ...there's a G-E lamp to solve it!

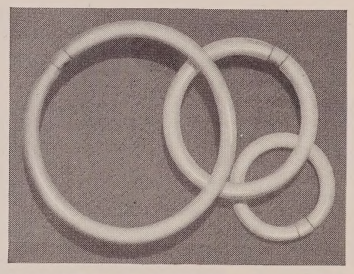


NEW FLUORESCENT LAMP FIRST TO FLATTER COLORS AND COMPLEXIONS G-E De Luxe fluorescent lamps make interior furnishings and patrons' complexions look better than ever before possible under fluorescent lighting. De Luxe Warm White lamps create an intimate atmosphere like filament lighting, are recommended for foyer, lounge and auditorium. De Luxe Cool White lamps produce a daylight effect, can be used for lobby and marquee lighting. De Luxe lamps are perfect for lighting posters and candy counters, too.

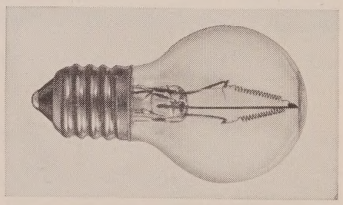
ACCURATELY CONTROLLED LIGHTING When you need lamps that put light right where you want it, try General Electric PAR and REFLECTOR lamps. The PAR-38 lamp (top) is just right for spotlighting poster panels, down lighting candy counters, and similar applications. The 300-watt PAR-56 spot or flood (middle) is recommended for high intensity building or display lighting. For outdoor floodlighting, such as in parking areas, specify G-E 500-watt R-40 lamps (bottom). Also available in 150 and 300-watt sizes.



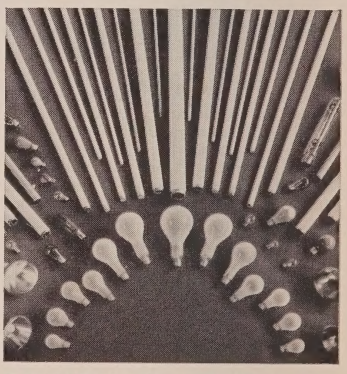
LATEST G-E LAMP DEVELOPMENT is colored 150-watt R-40 spot lamps in blue-white, pink, red, yellow, green and blue. A glass-like, color-stable coating is fired on the outside of the bulb. The blue-white and pink colors add dramatic appeal to display and down-lighting. The others create distinctive effects with maximum lighting efficiency for curtains, color coves and lobby and foyer decoration. Use these new lamps separately or combine with regular lamps for subtle results.



NEW DECORATIVE EFFECTS are possible with G-E Circline lamps, now in 8″, 12″ and 16″ sizes. They combine advantages of fluorescent light with a distinctive shape that adds interest to lobby, foyer and auditorium lighting.



DESTROYS ODORS! Here's a little lamp that does a big job. It's the General Electric Ozone lamp, now used by many theaters. This lamp bulb gets rid of unpleasant odors *electronically.* Use it in special fixtures in your public rooms and lounges.



G-E LAMPS for theater lighting range from 10-watt sign lamps in enameled colors to 1500-watt inside frosted lamps. Every General Electric lamp bulb and fluorescent tube is made to the highest standards of quality. They assure long life and dependable performance.

TO ORDER THESE LAMPS AND OTHERS, CALL YOUR G-E LAMP SUPPLIER TODAY

GENERAL ELECTRIC

"...'taint necessarily so!"

A MISS IS NOT ALWAYS AS GOOD AS A MILE
(Unless it happens to be Miss Universe)

LEFT-HANDED SLUGGERS CAN HIT SOUTHPAW PITCHERS
(Ask Leo Durocher about the Dodgers' Duke Snider)

WALLS DON'T HAVE EARS
(Only in those delightful Disney cartoons)

But there is one thing exhibitors have found is "necessarily so." Your show is as good as your sound. 6,000 exhibitors believe in that unchanging axiom. Year in and year out they employ ALTEC SERVICE CORPORATION to install, maintain and service their costly and vital sound equipment.

They know that whether it is a routine call or an emergency, ALTEC'S 200 alert, skilled, equipment-wise field engineers provide the best sound possible under any and all conditions.

If yours is not the best sound in town, call your nearest ALTEC office today. You'll learn one thing that is always "necessarily so." An ALTEC SERVICE contract is a "sound" investment that pays patronage dividends.

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***if it's a Smoothly Run Operation you've got to hand it to Goldberg Bros.**

35 mm. metal shipping cases
metal film exchange reels
16mm. reels and cans
16 mm. fibre shipping cases

SAND URNS...Chrome-trimmed, chrome-plated, 12" diameter, 20" high, in red, yellow, black, white, green, and bronze. PROJECTION TABLES AND CABINETS ...Tables in heavy angle iron, reinforced steel tops, set-in drawer, 3" block extension, 45" or 60" long. Cabinets in heavy zinc bond, reinforced, holding 15" reels. Door closes automatically. In 2 to 12 unit sections. CAST ALUMINUM REELS...Easily threaded, 4 slots, light, strong, and substantial. 15" diameter with 5" hub, 14" diameter with 4" hub. NO-DRAFT SPEAKING TUBES...Rust-resistant, chrome-plated, easily installed, 2¼-4¼ and 2¼-5¼ openings. AUTOMATIC FILM REWINDER...Brown hammertone, can accommodate reels up to 18", adaptable to 16 mm. and 35 mm. reels. Heavy steel with automatic stop-start controls. A famous GB first for theatres!

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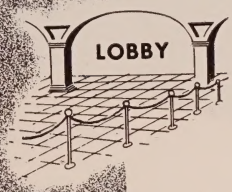
Internationally Famous for the Finest in Theatre Equipment

Is Your Showmanship Showing?

Check it!

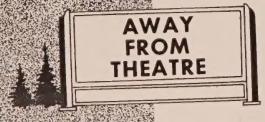
SCREEN

- ☐ 1. PREVIEW TRAILERS — *Selling your Coming Attractions*
- ☐ 2. SPECIAL TRAILERS — *Operation and Policy Trailers; Institutional Trailers; Exploitation Trailers*
- ☐ 3. HOLIDAY TRAILERS — *Tributes, Greetings and Merchant Tie-ins for added revenue*
- ☐ 4. REFRESHMENT TRAILERS — *Snack Bar, Intermission, Add-A-Clip*

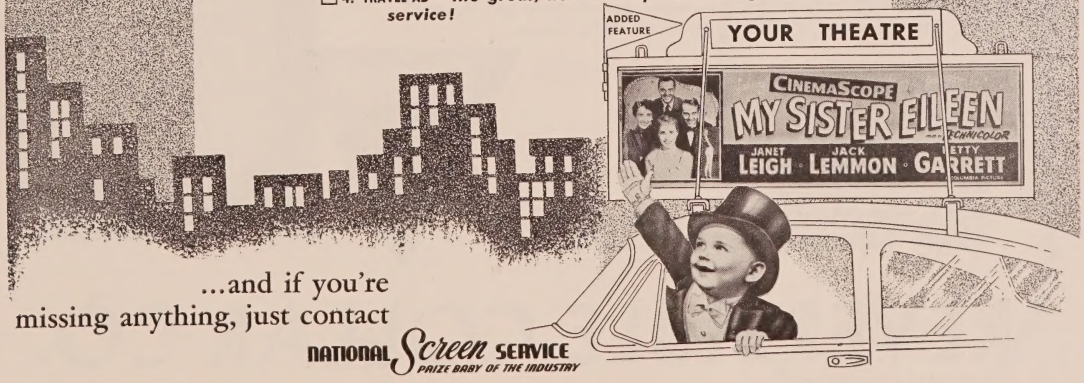


- ☐ 1. SILK SCREEN COLOR DISPLAYS — *30 x 40; 40 x 60; 24 x 82 and 24 x 60 banners for sock selling*
- ☐ 2. POSTERS — *basic showmanship with one's and three's*
- ☐ 3. LOBBIES — *fill your frames with 11x 14's, 22 x 28's and 14 x 36's . . . and clinch the sell with crowd-stopping color Standees!*
- ☐ 4. HOLLYWOODS and CUSTOM DISPLAYS — *beautiful, eye-catching "Shadow Boxes"; special "sign shop" jobs made to your custom order*

- ☐ 1. BANNERS — *colorful show-sellers for current and advance ballyhoo*
- ☐ 2. DOOR PANEL INSERTS — *to make your big attractions even more important*
- ☐ 3. TITLE CARDS — *hang 'em, tack 'em, shout about your shows!*
- ☐ 4. LITHO and SILK SCREEN DISPLAYS — *full-color posters and 40 x 60's, and 30 x 40's to catch the passers-by*



- ☐ 1. DISPLAYAWAYS — *in five sizes to sell on counters, in lobbies, terminals*
- ☐ 2. WINDOW CARDS — *cover the town!*
- ☐ 3. HERALDS — *for throwaway or mailing, with room for local imprint*
- ☐ 4. TRAVEL-AD — *the great, new car top advertising frame and service!*



...and if you're missing anything, just contact

NATIONAL Screen SERVICE
PRIZE BABY OF THE INDUSTRY

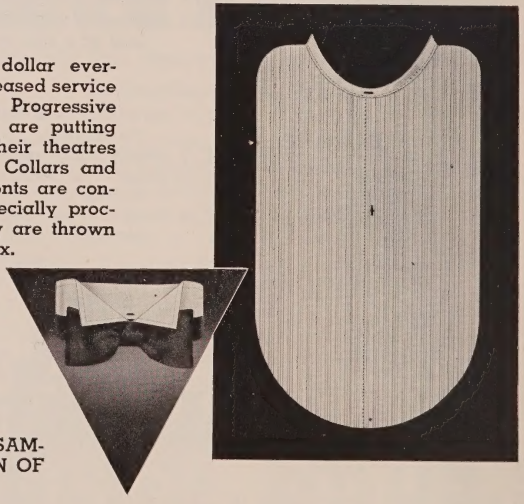
APPEARANCE *Counts More than Ever!*

Photograph courtesy of Radio City Music Hall

OUTFIT YOUR USHERS WITH *NEAT, ECONOMICAL Lintex* COLLARS & FRONTS

With competition for the public's entertainment dollar ever-increasing, progressive theatre men are offering increased service and other desirable features to attract customers. Progressive Chains and Independents throughout the country are putting added stress on cleanliness and appearance of their theatres and their service staffs. They have found Lintex Collars and Fronts to be a valuable help. These collars and fronts are convenient and extremely economical. Made from specially processed paper with a linen finish — when soiled, they are thrown away. There's never a laundry problem with Lintex.

Lintex Collars are made in wing or turn-down styles, fronts in plain or P.K.



FOR FURTHER INFORMATION, PRICES AND SAMPLES WRITE TO THEATRE SERVICE DIVISION OF

REVERSIBLE COLLAR CO.

111 PUTNAM AVENUE CAMBRIDGE, MASS.

NEW PRODUCTS, SUPPLIES, *and* SUPPLY DEALERS

1955-56

New Introductions During 1954-55

Some Thumbnail Descriptions of Selected Products With Interesting Possibilities

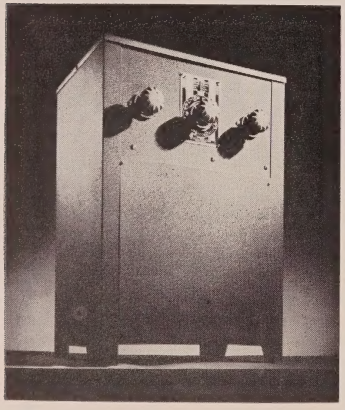
BRIEF: *Space permits only cursory presentation of some products . . . and only those that seem to have unusual idea value . . . The objective of this survey is to give the industry some recorded fact about available products and supplies that may not have been noticed through the year . . . and which might help fill a need in the operation of indoor and outdoor theatres.*

PROJECTION AND SOUND

Low Priced Rectifier

A new low priced rectifier announced by The Strong Electric Corporation is said to match the requirements of all the modern high intensity projection arc lamps.

Known as the Red Arrow, this 90 to 135 ampere rectifier is of the selenium type and may be used with angle or coaxial trim lamps. It has been designed for the efficient conversion of three-phase alternating line supply current to direct current for use at the arc.



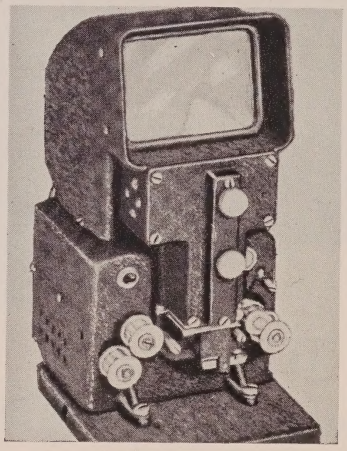
Output control has been made simple by convenient tap switches located on the front of the heavy sheet metal case.

The rectifying units consist of sheets of metal which are coated on the outside and are moisture-proof to insure reliable operation in damp climates. This coating is said to impart remarkable properties in that electricity will pass freely in the direction from the base metal to the coating, but not in the reverse direction. These sheets are assembled in groups that are electrically connected to adjustable insulated type transformers so that their valve action changes the alternating line current into particularly smooth direct current for use at the arc.

Ventilation is by forced draft provided by the heavy duty fan which cools the plates to room temperatures. The plates are sufficiently spaced so that the draft passes between them.

Film Viewer

An advanced type 16mm viewer which projects a large "aerial" image three by four inches has recently been put on the market by S.O.S. Cinema Supply Corporation.



Called the S.O.S. 16mm Action Viewer, it is claimed this new device will enable the running of originals as well as prints without worry of film scratches or damage to sprocket holes.

The mechanism embodies roller-smooth action and clear image. Features are a coated revolving optical prism with magnified viewing glass; self lubricating bearings; individual frame and focus knobs; easily replaceable high-power projection lamp with adjustable brightness control. The viewer can be used in a lighted room, it is said, and show a projected picture at 10 to 14 inches distance.

The unit is built of aluminum alloy, measures 16 by 10 by 12 inches, and weighs nine pounds.

Carbon Saver

A carbon saver for rotating carbons, called the "Ejector" Economizer is currently being marketed in 10, 11, and 13.6mm sizes, it was announced by Nels Matheson, the inventor and head of Economizer Enterprises.

The new device is said to permit the running of stubs "to the last inch" of usefulness. A special feature is claimed to do away with the guesswork as to whether or not a given stub is long enough for a certain reel. There is no danger of the lamp's feeding to a stop before the reel is finished because the "Ejector" provides about five minutes leeway in running time. This is said to offset any variation in running time, power supply, or burning rate of carbon.

Preparation of carbon for use with the device, Matheson says, is simple, and a few minutes work is all that is required to prepare a week's supply. One method suggested is the preparation of each new box of carbons as it is placed in stock, thus minimizing the handling and insuring a constant supply.

16mm CinemaScope Lens

A 16mm CinemaScope projection lens system that will adapt to all popular 16mm projectors was announced by the Bausch & Lomb Optical Company.

It is a combination prime and anamorphic single-barrel lens.

The lens is available in two-inch focal length. Other focal lengths will be made available if demand warrants, the company said. When used at the same throw distance as a regular lens, the B&L CinemaScope lens will produce an image twice as wide.

B&L has designed its lens to include a prime lens system so as to avoid the danger of imperfect projection that could easily develop through standard 16mm lenses, the company pointed out, because the latter were not designed for the increased horizontal magnification. The B&L CinemaScope lens requires no brackets or supports, is six and seven-eighths inches long and weighs only seven and three-quarter ounces.

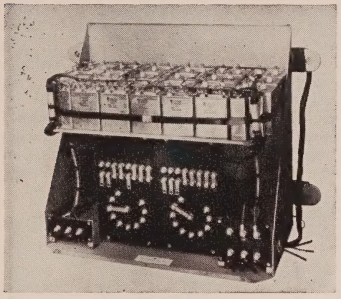
The new lens will make it possible for thousands of small theatres around the world, industry, institutions, clubs, and military installations to project any standard CinemaScope prints, which it is understood will soon be available through the usual channels.

3-Phase Converter

The Robin "Ro-Ro" single phase to three phase converter opens a new field for the motion picture industry in communities and areas where only single phase power is available and three phase power is desirable for efficient operation, according to Emil A. Kern, president of J. E. Robin, Inc.

This unit is said to make three phase symmetrical currents and voltages possible for operating selenium type rectifiers, or for operating any three phase static load with a power factor below 90 per cent.

The converter, according to Kern, consists essentially of one special transformer and two groups of capacitors. Single phase current is supplied to the primary of the transformer. The core of this transformer is provided with two independent windings arranged to supply two isolated banks of capacitors. Two radial adjustment panels permit the gradual calibration and adjustment to accomplish balance of currents to the approximate load. This adjustment will also attain symmetrical voltages, and no further adjustment will be required thereafter, it is claimed, unless the load conditions are materially changed.



When used in conjunction with a selenium rectifier the Robin Ro-Ro is said to have many advantages by permitting the use of standard three phase rectifying equipment to be operated off available single phase power lines. Kern reports that the converter requires less current to operate than a single phase rectifier installation; improves the performance of rectifiers by providing an almost ripple-free current; permits the use of standard three phase equipment without the necessity of installing new power lines, transformers, motors, etc.

The Ro-Ro is said to be available for any size equipment presently obtainable for projection arc lamps, and is built to accommodate one or two projection lamps for one and the same unit. The converter is sturdily constructed and designed for many years of use.

Film Rewinder

What is said to be the largest automatic film rewinder presently on the market has just been introduced by Goldberg Brothers, it was announced.

The large rewinder is said to accommodate 3,000 feet of black and white 35mm film on reels with a diameter as large as 18 inches. The same product can be adapted for 35mm film reels with 15 inches of diameter or smaller, as well as for 16mm sized reels.

Constructed of top-grade heavy steel, the rewinder is machined and finished to precision tolerance, providing a complete protective shield. Doors open on extra - heavy counter - balanced spring hinges, it is claimed. A special large handle keeps doors perfectly tight while in operation. The rewinder works automatically after the control handle is set.

16mm Vidoscope Lens

A new anamorphic lens that fits all 16mm projectors is now in production by Vidoscope, it was announced by company president, Walter Futter.

The new lens, which is said to be designed exactly like the company's 35mm Vidoscope anamorphic lens, is equipped with screw mountings and attaches without brackets to 16mm professional and amateur projection machines. It is claimed that it is unnecessary to purchase new objective lenses.

Futter stated that the lens improves picture clarity, eliminates distortion and can be used with any lens on a 16mm machine. It fits the Victor, Ampro, RCA, Natco, Formay, Bell & Howell, Keystone, Revere and others.

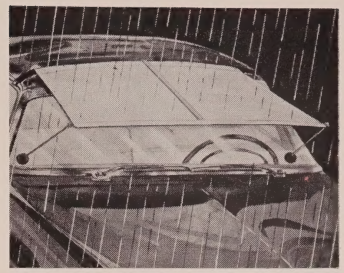
A special adaptor is available for attaching the lens to Jan or Bell & Howell professional projectors. The company also supplies adaptors for its regular 35mm lens so that it can be used with the Jan and Bell & Howell 16mm professional type projectors. This, it is claimed, permits wide screen viewing in limited throw areas.

FOR DRIVE-IN THEATRES

Auto Umbrella

One of the problems that face an outdoor theatre operation is rain. A sharp drop in attendance usually develops in rainy weather because it is necessary for the patrons to keep their engines going in order to use their windshield wipers. This inconvenience, plus the use of gas and batteries, and the possible overheating of motors will tend to keep customers away.

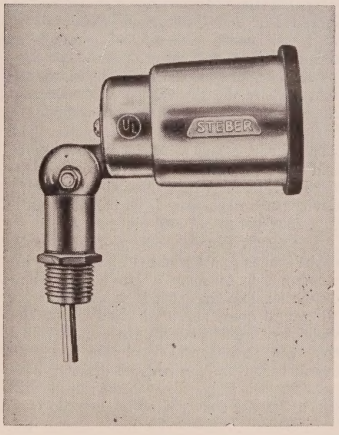
A possible solution to this problem is the Sightmaster Rain-Visor being offered by the Sightmaster Corporation. It is made of durable vinyl plastic, and when not needed can be rolled and conveniently stored, it is said. The size of



the Rain-Visor is 48 inches long and 18 inches wide. To make it universal two elastic straps with clamps on the ends are furnished so that it is adjustable for attachment to the rain gutter of any car. There are also suction cup attachments that fit to the base of the windshield.

Chrome Plated Lampholder

The Steber Manufacturing Company recently announced an addition to its Steberlite line. The new unit, S-500, is designed to accommodate medium base sealed beam PAR-38 and R-40 lamps, such as those used to light various areas of outdoor theatres.

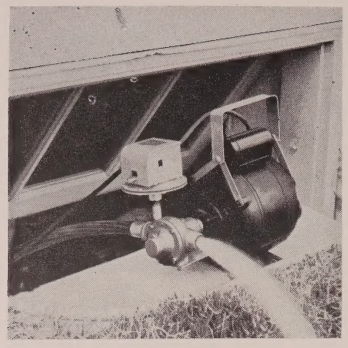


The socket housing, articulated adjusting joint, and mounting arm (threaded one-half inch) are triple chrome plated. Each unit is furnished with a black "Hycar" rubber lamp gasket, and is equipped with high-grade procelain socket, factory wired with weather-proof leads.

Portable Pump

One of the problems which often face the operator of drive-in theatres is water seeping into basements and storage facilities. To cope with this problem, Hypro Engineering, Inc., is marketing a lightweight portable pump equipped with a vacuum switch that automatically stops the motor when the liquid supply runs dry, permitting untended operation.

The capacity of this pump is said to be five gallons per minute, with pressures up to 30 pounds. It is said to handle clean or dirty water with a mini-



mum of clogging. The unit weighs 26 pounds, including motor, hinged carrying handle, and vacuum switch.

The motor is one-quarter horse power, 110 volt, heavy-duty capacitor type with manual reset overload protector and five foot cord.

Hand-Operated Locomotive

A backyard railroad which was recently introduced at the New York Toy Fair, soon will be made available to Kiddielands and playgrounds at drive-in theatres.

Called the "Yardbird," the basic toy includes a hand operated "locomotive" that will carry one or two youngsters around the 40 feet of circular track supplied with the set. The unit is manufactured by the Charles William Doepke Manufacturing Company, Cincinnati.

Originally designed for home-use, the "Yardbird" offers sturdiness, low price and easy assembly which makes it ideal for institutions where special amusement devices are necessary to entertain smallfry, four years old and older.

The track consists of two metal rails, eight inches apart and held together with wooden ties to form a circle 12 feet in diameter. The hand-car is made of heavy, 18 gauge steel and will easily bear the weight of adults, although it is a child's toy, the manufacturer claims. A hand crank turns the chain drive directly connecting all four rear wheels and will drive the car forward or backward.

In order to keep the price down, the manufacturer will supply rails, ties, and hand-car unassembled. Assembly of the complete unit is an easy morning's job for two men, it is claimed. Additional track is available in either curved or straight sections, and it will also be possible to purchase "flat-cars" which will couple onto the locomotive to carry additional passengers.

D-I Speakers

A complete line of in-car speakers for drive-in theatres, including the "Stereo 2" for stereophonic sound reproduction, is now being offered by Eprad, Inc.

The "Stereo 2," said to be the most compact and economical stereophonic speaker on the market, uses a new concept of binaural sound, bringing all three channels through two 3½ inch cones in one speaker case. This is made possible by using an automatic coupling crossover system perfected by Eprad.

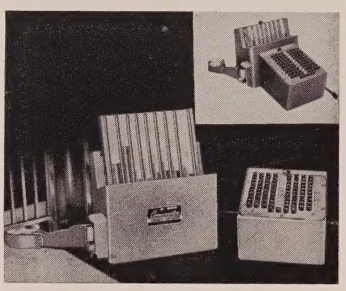
This makes possible savings in speakers, junction boxes, booth equipment and underground wiring. Many drive-ins now using single-coned speakers can convert to stereophonic sound without rewiring the ramps by installing this speaker, it is claimed.

FOR FRONT AND LOBBY

Electric Coin Changer

What is said to be the first practical coin changer and payer ever to incorporate all-electric operation, was recently introduced by Coinometer Corporation.

Known as the Coinometer "400" series, these new machines have the keyboard unit and coin ejector independent of each other. Therefore, it is claimed, it is no longer necessary for a specific area on top of the counter to be reserved for the coin-changer. The keyboard may be placed in a drawer or in some other location that is especially convenient for the cashier, while the compact ejector unit can be placed where it is most convenient for the customer.



The new machine has a 104 key control board that is said to enable cashiers to handle any conceivable coin-changing task by depressing a single key. Some of the other features to be found in the "400" series include smooth and quiet action, since solenoids are used instead of motors; built-in safeguards that automatically prevent incorrect coin delivery; and increased capacity, since the electric power can accommodate higher coin trays and more coins.

Snow Plow

One of the problems facing theatres in the winter is the removal of snow. To help ease this problem Leisure Industries is offering a new all-steel plow with 30 by 12 inch adjustable blade that pushes snow to the left, right, or straight ahead. Ease of operation is said to spare the user from undue strain or effort. It is also said to make the removal of snow a job that can be done in a very short period of time.

Angle of the snow plow's blade is changed by four springs locked in position by finger controlled wing nuts. The plow rolls on six inch rubber-tire wheels that firmly grip the cleared ground.

Automatic Photography

An item which is currently being introduced to the theatre field is a coin-operated photo vending machine. Produced by the Auto-Photo Company, a new model is being offered that features an automatic stroboscopic process of electronic lighting that is said to permit an extremely fast camera shutter speed, thus permitting the taking of sharper and clearer pictures.

Operation of the machine is also claimed to have been greatly simplified. The customer drops a quarter in the slot, poses while four pictures are being taken, and then waits three minutes for the pictures to be developed. It is said that only 30 seconds are required to take the four photographs.

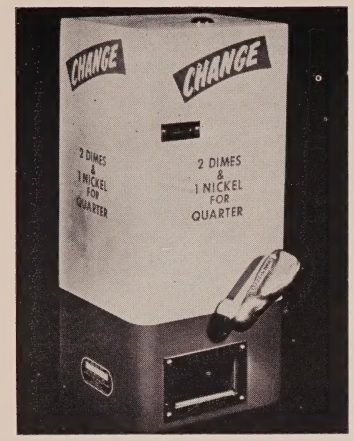
Designed in matching grain walnut and vinyl, the Studio is 70 inches long, 72 inches high, and 29 inches wide. It is equipped with fireproof draperies for the door closing and dark or light backdrops. The interior is of non-breakable fiberglas and porcelain.

This machine is said to be able to produce 120 strips of four-pose photographs per hour. This rapid service would be of particular value in a drive-in theatre, where there is a more definite show break than usually found in a conventional theatre.

Automatic Change-Maker

Continental Coin Devices, Inc., recently announced the development of a new automatic change-maker which offers an efficient and economical answer to the request for change by indoor and outdoor theatre patrons.

A compact unit, the Change-Maker may be easily mounted on a stand, the wall or simply placed on a counter.



Locations now using the device report a savings in employe time as well as an increase in good-will of the customers who appreciate this service.

Mechanically operated, the unit requires no electrical connections. It is said to be simple to operate and includes such features as a slug rejector, reinforced lock, and a heavy duty cabinet.

The unit is available in three models offering two dimes and nickel for a quarter, five nickels for a quarter, and five pennies for a nickel. All models are said to provide room for a large capacity of coins, thus requiring infrequent loadings.

Surface Coating

Wind, rain, and sun's heat that leak through a deteriorated brick rear wall to threaten the structure of an old theatre building can be sealed out by an attractive new surface coating based on Vinylite resins, and produced by Surface Engineering Company, Inc.

Bridging cracks and forming an unbroken surface, this coating is said to be flexible, durable, and elastic enough to withstand structural strains without rupturing.

Vinylite resins also make this easily washed masonry coating resistant to moisture, mould, mildew, and industrial gases. Fully exposed to the south, the deteriorated brick wall (left) absorbed heat from the sun through most of the day, and was in such poor condition that it endangered the interior surfaces of the building. Resurfaced with the new surface coating, the brick wall was completely sealed (right) and reflected sunlight so well that the interior of the wall was 10 to 15 degrees cooler on sunny days.

FOR INTERIOR AND AUDITORIUM

Longer Theatre Chair

The addition of two and a half inches length to all models in the International Seat Corporation's line of theatre chairs was recently announced. This added length is said to provide comfortable shoulder support, and at the same time, provide complete protection to the seat upholstery from the back.

All International theatre chairs are of all-steel construction, having hingeless seat suspension that assures premanent quiet, and never need lubrication. In the event any seat is damaged, individual parts can easily be replaced, it is said. as all chairs have removable seats and backs, and are interchangeable. This feature makes it possible for the management to distribute seat wear evenly over the entire house, with minimum trouble and expense.

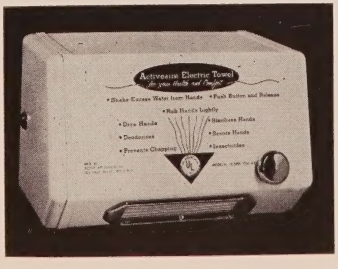
International chairs are available in a wide variety of seat ends, to meet the varying demands of theatre seating. There are improved aisle lights, DuPont enamel metal finishes, and a wide range of plastic coated leatherettes and long wearing fabrics.

"Electric Towel"

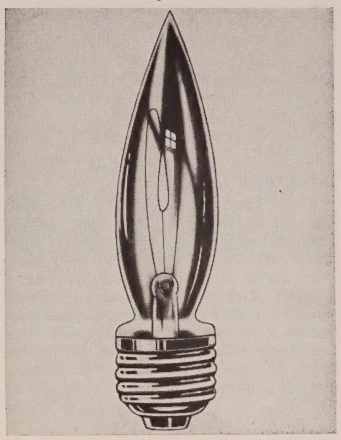
A new electric towel, Activeaire, is now being introduced to the theatre industry by Doc Faige and Associates.

Activeaire is claimed to perform other essential functions in addition to the drying operation. A special deodorant block in the unit scents the hands and room with a pleasing odor. Through the use of two General Electric ozone lamps, its ultra-violet radiation kills air-borne bacteria, it is claimed.

According to the manufacturers this unit is inexpensive to own and operate. It can be operated from a regular 15 ampere line. The unit is started by pressing a button and its automatic electric timer automatically turns the machine off after 40 seconds. The machine is finished in baked enamel and is made of 16 gauge steel construction throughout. It is said to be so designed so that it is virtually tamperproof. The maker guarantees it for two and one-half years against defective parts and workmanship.



Decorative Lamp



A new type of carbon filament decorative lamp, trademarked Candylbeme, is said to be especially designed to enhance the natural beauty of crystal type, polished and other decorative lighting fixtures which may be found in a theatre. The lamp is being offered by the North American Electric Lamp Company.

The Candylbeme is hand-tipped to give a long, slender pointed effect. It is made of clear glass so that beams of light radiate without diffusion, reflecting sharp, brilliant rays when striking glass and polished surfaces. Frosted glass bulbs are also available.

The special carbon filament is designed to provide more light and long life, it is claimed. The 30 watt, 110-125 volt bulb is available with candelabra, medium or intermediate base.

The lamp is said to achieve all the warm, mellow charm of real candle light in crystal fixtures, electric candle sticks, wall brackets, etc.

Tweed-Textured Floor Tile

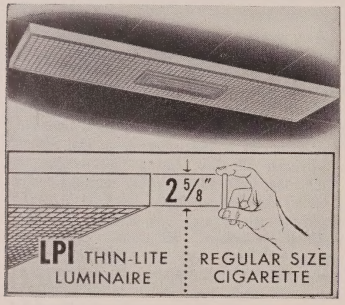
A new rubber floor tile with a modern tweed-textured surface has been developed by the American Mat Corporation, it was announced.

Known as the "Do All Tweed Corded Rubber Tile," it is non-porous and dirt cannot become embedded, thus greatly reducing maintenance requirements, it is claimed. The tweed-textured surface is obtained by a new process, using a special rubber compound which is said to be extremely durable and fade-resistant. The manufacturer also states that it is resilient, and has high sound-absorbing qualities.

The Do All Tweed Corded Rubber Tile comes in three colors—white on black, red on black, and green on black. It is obtainable in sizes of nine by nine inches, nine by 18 inches, and 27 by 27 inches. The tiles may be applied directly to concrete, wood and steel floors, using any good rubber tile adhesive, without felt or paper between the tile and the floor, it is said.

Ultra Thin Luminaires

What are said to be the "thinnest shielded fluorescent luminaires" available are being offered by Lighting Products, Inc., in its new Thin-Lite series. Each model in the series is said to have a depth of only 2⅝ inches, and creates a semi-recessed effect although surface-mounted to the ceiling. Actually the depth below the ceiling is essentially the same as that of troffers fitted with dished plastic or glass shields, it is claimed.



This new series consists of four different luminaires. Two are 49 inches in length (equipped with 48 inch rapid start lamps), and two units are 97 inches long (equipped with 96 inch lamps). These thin-lite luminaires may be mounted end to end or side by side to form a great variety of light patterns up to any desired size.

Bolt knock-outs are provided and the back plate is recessed so that the fixtures can be drawn up solid against the ceiling, it is said. The louver panels are metal framed and secured by floating hinges which cannot be seen from any viewing angle.

FOR MANAGEMENT

Display Letters

Manufactured by Micro Sign Products, a new set of plastic letters and numbers is said to make it simple to produce display and price cards, desk plates, and many specialized signs which are used in and around a motion picture theatre. These letters can be used indoors or outdoors, on windows, walls, and doors.

The method of application is said to make these plastic letters easy to use. A drop of a special solvent will fuse the letter or number to paper, wood, fabric, plaster on any porous surface, it is claimed. On painted walls, glass, metal, or any non-porous surface, a special cement provides adhesion.

Micro Sign plastic letters are available in black, white, yellow, green, blue, red, metallic gold and silver, and vary in size from one-quarter inch to two inches.

These letters and numbers are available in either standard modern, or condensed type styles.

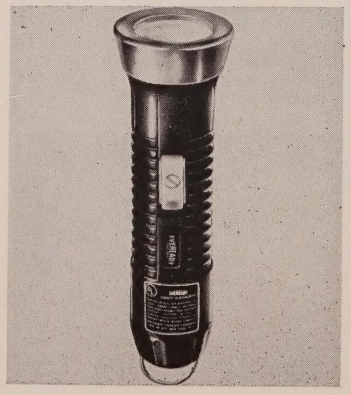
Emergency Lights

A series of new "Safeguard Lites," was recently put on the market by Jamil, Inc. The series consists of five models, each designed to supply light by battery power when electricity fails. As soon as the electric current is cut off, it is said the "Safeguard Lite" is automatically turned on. Four of the models are for use on walls, tables, or floors. The fifth model is especially designed for use in areas where it might not be desired to have a standard looking emergency light, such as a tastefully decorated lounge, and gives the appearance of a standard table lamp.

The safety lamps come equipped with battery test buttons, and six-volt G.E. sealed beam lamps. As an added safety feature, three of the models have a safety pilot light. The cases of all models are made of heavy steel, with all but one model being finished in gray hammertone. The smallest model which is portable, is six by five by six inches. Several models are equipped with two lamps. The factory finish is said to make these lights easy to paint, and enamel, flat paint, or rubber base paint may be used to give the desired finish and color.

Maintenance costs are said to be negligible, and the batteries and sealed beam lamps are inexpensive and readily available.

Heavy-Duty Flashlight



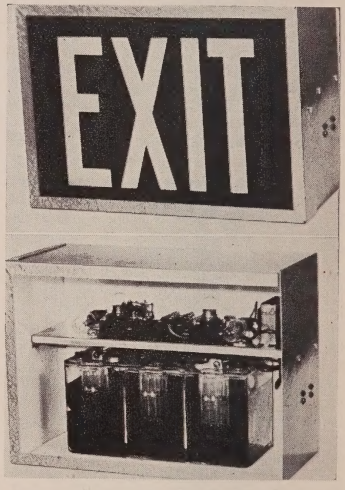
Two new heavy-duty flashlights, one a new approved safety type, have been announced by National Carbon Company, a division of Union Carbide and Carbon Corporation. They would be of particular value to theatre maintenance staffs, and drive-in theatre attendants.

The new "Eveready" heavy-duty flashlight has an insulated ethyl cellulose case that will not shatter, crack, or dent, and is resistant to temperature extremes, it is claimed. The flashlight has a self-lubricating, hand replaceable insulated slide switch and a special lens guard made of tough polyethylene which protects the lens, and throws a powerful red safety warning light.

The "Eveready" safety flashlight is approved by the Underwriters' Laboratories, Inc. It has the same features as the heavy-duty model, plus an extra lamp in the bottom cap. The safety flashlight is so designed that if the lamp is broken, the filament is snuffed out instantly before it can ignite inflammable or explosive mixtures of gas in the surrounding atmosphere.

Exit Light Safety Sign

A new line of automatic emergency exit lights and safety signs is being manufactured by the Electric Cord Company.



These units are designed to operate from the regular 115 volt lighting circuit. In addition, they also provide instant, automatic emergency light when the power source fails, thus making for greater safety in the auditorium, and helping to avert possible panic. This added safety feature is accomplished by batteries contained within the unit and a relay which closes the low voltage circuit automatically whenever the 115 volt service fails. Both wet and dry battery operated models are available.

The wet battery models contain equipment that automatically keeps the battery at full charge, the manufacturer claims. The dry battery models use standard six volt batteries, and all models contain two 115 volt bulbs and two six volt bulbs.

Handy Hand Truck

A new stair climbing hand truck which is said to safely double the load a man can roll up steps and treble the load he can move down stairs or ramps has been announced by Valley Craft Products, Inc.

Known as the Stair Cart, the manufacturer says it is equipped with a special ratchet mechanism which enables it to roll up stairs step-by-step as the operator pulls a cable drive.

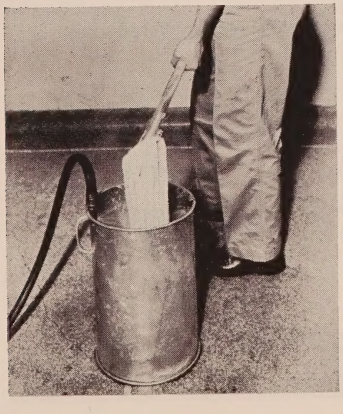
The two-wheel safety brakes which are incorporated in the truck can help prevent accidents when descending ramps or stairs with heavy loads since the brakes allow perfect control at all times, it is claimed.

Features such as interchangeable shoes, sealed ball bearings and steel tube construction are said to assure load flexibility and a long efficient life. The truck is equipped with large pneumatic tires which add to ease of operation and eliminate any marking of steps. Six different models are available for handling various sizes of loads.

FOR MAINTENANCE

Mop Washing Unit

An interesting and useful new item for the maintenance department is the Jet Streem mop washer being sold by Geerpres Wringer, Inc. The manufacturer contends that although cleaning personnel may do an excellent mopping job, they tend to be careless about washing the mop after use because it takes almost as long to clean the mop as it does the floor. With the Jet Streem unit cleaning is said to take only a few minutes.

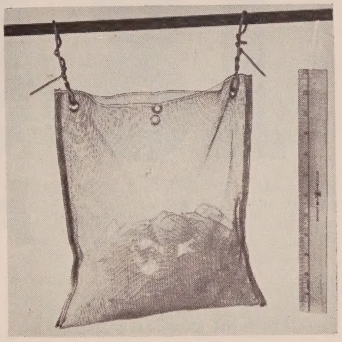


The unit is basically a steel cylinder open at both ends. Inside are six directly opposed full-flare spray jets that force water through the mop strands to flush away dirt, caustics and other foreign matter. As the jets clean the mop, it is claimed that the dirt drains through the bottom.

The Jet Streem can be used wherever there is a water outlet with a threaded hose connection. It fits in utility sinks, over floor drains, or in mop wagons, it is said. The cylindrical housing confines the water spray so that operator, walls and surrounding floor remain dry.

Cooling Equipment Protection

A simplified and inexpensive way of controlling scale and corrosion in the recirculating cooling water systems of air conditioning, refrigeration and other cooling equipment is provided by Micromet plates, developed by Calgon, Inc.



Micromet plates are described as a new plate form of Micromet, a slowly soluble phosphate used in granulated form to inhibit scale and corrosion.

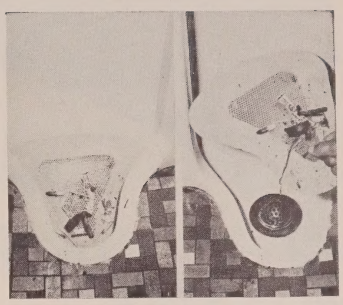
Up to 10 pounds of these plates may be put in a plastic mesh feeding bag, it is claimed, which is then hung directly in the water spray inside the cooling tower of the evaporative condenser. This eliminates cutting water lines or special plumbing. One or two bags of plates are used for each 20 tons of capacity, and a single charge will last six months.

Improved Urinal Trap

An improved urinal trap called "Sani-Screen" is a new item from the Bundy Company which could be of use in indoor and outdoor theatre washrooms.

Made of an aluminum perforated core, and molded with a broad rubber edging, this product is said to fit any urinal. The rubber edging insures a watertight seal around all edges.

There are five models available, according to the manufacturer, so that it is possible to get one that will fit any standard model urinal. The urinal trap is so constructed that every time the urinal is flushed the water is forced across the screen. Therefore, the unit is always clean and offensive odors are reduced, it is claimed.



To summarize the advantages of the Sani-Screen, it is claimed to: Keep urinals unplugged; keep urinals clean, scum and odor-free; make the disposing of waste material thrown in urinal bowl simple with a special removal tool; saves expensive plumbing costs, and reduces maintenance.

Portable Cleaning Machine

A lightweight portable machine for cleaning upholstery, stair carpeting, and in other hard to get at places, is available from the Multi-Clean Products Company.

Called the Professional, the machine is a hand-sized power unit that weighs only six pounds, and which will maneuver in awkward corners where even hand cleaning is difficult, it is claimed. The firm but gentle shampooing action of the nylon bristles makes it safe for the most delicate fabrics.

The Professional is said to have many improvements, and includes such features as a special pump built into the cleaning unit to give accurate control of the solution flow at the point of work; a clear plastic hose from tank to unit that gives the operator complete maneuverability and won't mar the furnishings; and a powerful lightweight motor that operates from any standard light socket.

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NATIONAL THEATRE SUPPLY, 417 St. Paul Place, Baltimore 2. Telephones: Mulberry 5-8266-67 PERSONNEL—*Manager:* N. C. Haefele. AREA SERVED — Maryland, District of Columbia, Virginia.

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NATIONAL THEATRE SUPPLY, 2312 Cass Ave., Detroit 1. Telephones: WOodward 1-2447-8-9—(Emergency Night) Logan 5-4996, Kenwood 3-0447, Logan 3-2276. PERSONNEL — *Manager:* C. Williamson. *Salesmen:* Eugene Duffield, John I. Kenny. AREA SERVED—Michigan.

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NATIONAL EQUIP. CO., 7 E. Michigan St., Duluth 2. Telephone: RA. 2-4567. PERSONNEL—James B. Enochs. AREA SERVED — Northeastern Minnesota, Northern Wisconsin.

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FROSCH THEATRE SUPPLY, 1111 Currie Ave., Minneapolis 3. Telephone: Bridgeport 1166. PERSONNEL—*Owner:* M. E. Frosch. *Manager:* Henry Miller—JU. 7889. AREA SERVED—Minnesota, North Dakota, South Dakota, Northern Iowa, Northern Wisconsin, Northern Michigan.

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NATIONAL THEATRE SUPPLY, 56 Glenwood Ave., Minneapolis 3. Telephones: Main 8273 — (Emergency Night) Walnut 2-4127. PERSONNEL—*Manager:* A. T. Crawmer. AREA SERVED — Minnesota, North Dakota, Western Wisconsin, Eastern South Dakota.

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NATIONAL THEATRE SUPPLY, 223 W. 18th St., Kansas City 8. Telephones: HArrison 3256 — (Emergency Night) JAckson 8082. PERSONNEL — *Manager:* Arthur de Stefano. *Order Desk:* Carl Whitney. *Store Sales:* Mel Murray. *Representatives:* Robert E. Smith, Bill Allison, Vern Babcock. AREA SERVED—Kansas, Western Missouri.

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PERKINS THEATRE SUPPLY CO., 505 Pearl St., Buffalo. Telephones: Mohawk 3615—(Emergency Night) Plaza 6294. PERSONNEL—*Manager:* Carl E. Bell. AREA SERVED — Western New York State, Pennsylvania.

AMUSEMENT SUPPLY CO., INC., 346 W. 44th St., New York 36. Telephones: CIrcle 6-0850—(Emergency Night) IN. 2-6691. PERSONNEL—*President:* Joseph J. Pear. *Salesman:* Harry E. Pear. *Counter Man:* Seymour Rindner. AREA SERVED—Metropolitan Area, Northern New Jersey, Southern New York State.

CAPITOL MOTION PICTURE SUPPLY CORP., 630 Ninth Ave., New York 36. Telephone: PLaza 7-4510. PERSONNEL—*President:* Ben Perse. *Vice-President:* Harry Perse. *Sales Engineer:* Peter Braut. *Counter Men:* Sam Ochs, Peter Braut. AREA SERVED—Southern New York State, Pennsylvania, New Jersey, Ohio.

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*CENTURY THEATRE SUPPLY CO., 706 W. Grand, Ave., Oklahoma City. Telephones: RE 6-8709—(Emergency Night) JA 5-6619, JA 8-8796. PERSONNEL—*Owner:* Byron Savage. *Office Manager:* W. S. Quade. AREA SERVED—Oklahoma, Texas Panhandle.

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NATIONAL THEATRE SUPPLY, 700 W. Grand Ave., Oklahoma City 2. Telephones: CE 2-0203—(Emergency Night) JA 8-2476, JA 4-0394, JA 8-7085. PERSONNEL—*Manager:* J. I. Watkins. *Salesmen:* Howard Nelson, Mike Baldivid. AREA SERVED — Oklahoma and Panhandle of Texas.

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MODERN THEATRE SUPPLY, INC., 1935 N.W. Kearney, Portland. Telephone: CApitol 2-6437. PERSONNEL—*Manager:* Jack Barber. *Salesman:* Morrie Horlen. AREA SERVED — Oregon, Washington, Idaho, Montana, Alaska.

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B. F. SHEARER CO., 1947 N. W. Kearney St., Portland 9. Telephones: ATwater 7543—(Emergency Night) VErmont 1274. PERSONNEL—*Branch Manager:* E. C. Holland. *Counter Man:* Dan Stitt. AREA SERVED—Oregon, Southern Idaho.

INTER-STATE THEATRE EQUIPMENT CO., 1923 N.W. Kearney St., Portland 9. Telephone: CApitol 3-7800. AREA SERVED — Oregon, Washington, Idaho, Montana, Utah.

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PERKINS THEATRE SUPPLY CO., Box 87, Danville. Telephone: 996W. PERSONNEL—*Salesman:* Harold E. Bell. AREA SERVED — Pennsylvania, Western New York State.

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BLUMBERG BROS., INC., 1305-07 Vine St., Philadelphia 7. Telephones: LOmbard 3-7240-41 — (Emergency Night) Welsh Valley 4-4920 or 4-5368. PERSONNEL — *President:* Harry Blumberg. *Secretary and Treasurer:* Ben Blumberg. *Service Men:* Joe Haggerty (Nite Phone — GReenwood 3-9207), Leon Miller (Nite Phone — TRinity 7-1898), Irv Goldeberg (Nite Phone — GReenwood 3-7171). AREA SERVED — Pennsylvania, Delaware, New Jersey.

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NATIONAL THEATRE SUPPLY, 412-414 S. 2nd St., Memphis 2. Telephones: 5-6616-17-18. (Emergency Night) 62-3975, 4-2754, 36-3066, WH 2-1330, 4-9988, 62-2389, 62-1026, MU 5-6817. PERSONNEL—*Vice-President:* R. L. Bostick. *Branch Manager:* C. C. Bach. *Salesmen:* C. E. Sumner, C. E. Matthews. *Service Engineer and Salesman:* O. D. Bland. *Counter Salesmen:* J. R. Ferraris, R. W. Lane. *Refrigeration Engineer:* W. P. Cates. AREA SERVED — Western Tennessee, Arkansas, Northern Mississippi, Southeastern Missouri.

*THEATRE & EXHIBITORS SUPPLY CO., 361 S. Second St., Memphis. Telephones: 5-8214—(Emergency Night) 34-1291. PERSONNEL—Kenneth E. Forster. AREA SERVED—Memphis Exchange Area.

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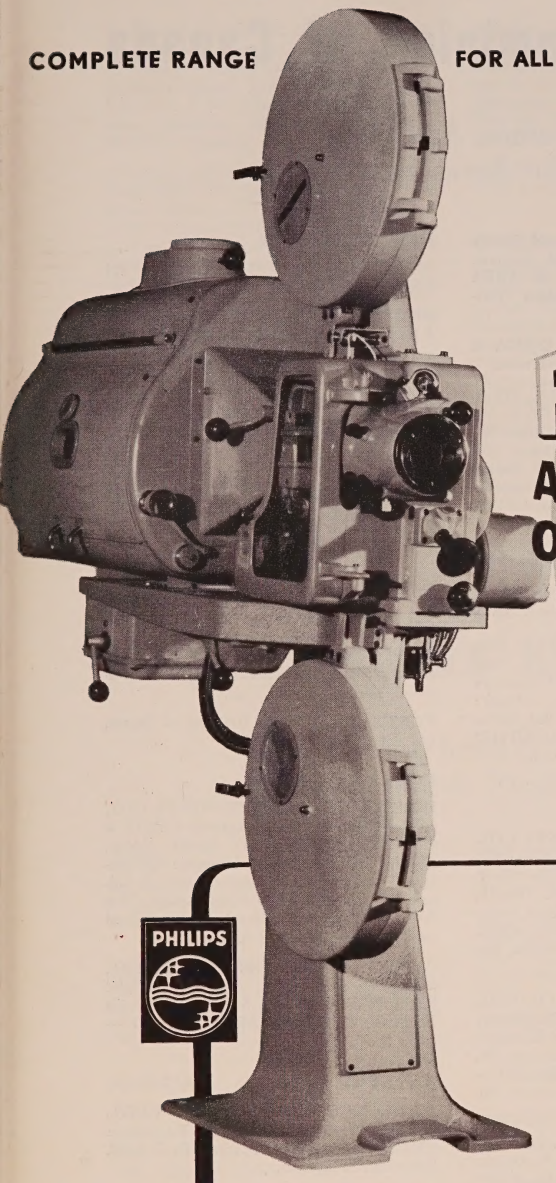

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DOMINION SOUND EQUIPMENTS LTD., 5 Pisch Block, 1651-11th Ave., Regina. Telephone: 29730. PERSONNEL—*Branch Manager:* L. B. Cogger. *Sales and Service:* L. A. Sass. AREA SERVED—Saskatchewan.

Supply Dealers of the Rest of the World

Comprehensive Listing of Names, Addresses, Personnel, Products, and the Areas Served

ADEN

A. BESSE & CO. (ADEN) LTD., Aden. Products Sold: Philips Projection and Sound Equipment.

AFGHANISTAN

S. FAZAL & CO., Déh Afghanan, Kabul. Products Sold: Philips Projection and Sound Equipment.

ALGERIA

COMPTOIR CINEMATOGRAPHIQUE NORD-AFRICAN, 6 Rue d'Isly, Algiers. PERSONNEL—*Agent:* R. Loiseau. Products Sold: National Theatre Supply Line.

S.A. PHILIPS NORD-AFRICAINE, 7 Rue du Docteur Trabut, Algiers. Products Sold: Philips Projection and Sound Equipment.

WESTREX CO., FRANCE-BELGIUM, 47 Rue Michelet, Algiers. Products Sold: Westrex Corp. line. AREA SERVED—Algeria, Tunisia and Morocco.

WESTREX CO., FRANCE-BELGIUM, Impasse Thierry, Oran. Products Sold: Westrex Corp. line.

ARGENTINA

CIA COMERCIAL CONDOR, Sarmiento 2149, Buenos Aires. PERSONNEL—Carlos Glucksmann. Products Sold: National Theatre Supply Line.

PHILIPS ARGENTINA S.A., Cailla de Correo 3479, Buenos Aires. Products Sold: Philips Projection and Sound Equipment.

RCA VICTOR ARGENTINA, P. O. Box 4400, Bme. Mitre 1961, Buenos Aires. Products Sold: Theatre and Sound Equipment, Sound Recording Equipment, Theatre Television.

WESTREX CO., ARGENTINA, Rodriquez Pena 370, Buenos Aires. Products Sold: Westrex Corp. line. COUNTRIES SERVED —Argentina, Paraguay, Uruguay.

AUSTRIA

ELECTRO ACUSTIC GMBH, Mariahilferstrasse 37, Vienna VI. PERSONNEL— *Ing.:* F. Strohmaier. Products Sold: National Theatre Supply Line. COUNTRY SERVED —Austria.

PHILIPS G.M.B.H., Schwarzenbergplatz 2, Vienna I. Products Sold: Philips Projection and Sound Equipment.

AUSTRALIA

WESTREX AUSTRALIA PTY. LTD., 24 Hunter St., Newcastle, New South Wales. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., Film House, 251A Pitt St., Sydney, New South Wales. Cable Address: Vitavox — Sydney. Telephone: B0663. PERSONNEL—*General Manager:* A. L. Graham. *General Sales Manager:* R. C. Smith. Products Sold: Gaumont-Kalee. AREA SERVED—Australia, Tasmania.

PHILIPS ELECTRICAL INDUSTRIES (PTY) LTD., 69-73 Clarence St., Sydney. Products Sold: Philips Projection and Sound Equipment.

RCA PHOTOPHONE OF AUSTRALIA, PTY., LTD., 221 Elizabeth St., Sydney, New South Wales. Products Sold: Theatre and Sound Equipment.

RAYMAC SUPPLIES PTY., LTD., 230 and 270 Elizabeth St., P. O. Box 3787, G. P. O., Sydney, New South Wales. PERSONNEL—*Managing Director:* R. E. McIntosh. Products Sold: Raymac Theatre and Sound Equipments, sole Australian agent for Lorraine Carbons. AREA SERVED—Australia, Pacific Isles, Malaya, Ceylon, N. E. I.

WESTREX AUSTRALIA PTY, LTD., Head Office: Broughton House, 181 Clarence St., Sydney, New South Wales. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., Film Centre, 164-168 Melbourne St., S. Brisbane, Queensland. Telephone: J5831. PERSONNEL—*General Manager:* J. A. Welch Products Sold: Gaumont-Kalee.

WESTREX AUSTRALIA PTY. LTD., 167 Queen St., Brisbane, Queensland. Products Sold: Westrex Corp. line.

*Listing not confirmed by Supply Dealer

WESTREX AUSTRALIA PTY. LTD., 62 Rundle St., Adelaide, South Australia. Products Sold: Westrex Corp. line.

NATIONAL THEATRE SUPPLY CO. OF AUSTRALASIA, PTY., LTD., 315 King William St., Adelaide, South Australia. Telephone: LA 3742. PERSONNEL—*Manager:* J. P. Wright. Products Sold: Gaumont-Kalee.

GAUMONT-KALEE THEATRE SUPPLIES, 178-A Flinders St., Melbourne C.I., Victoria. Telephones: Central 1100, 1169. PERSONNEL—*Manager:* M. E. Lightfoot. Products Sold: Gaumont-Kalee, Roycophone. AREA SERVED—Victoria.

WESTREX AUSTRALIA PTY. LTD., 358 Lonsdale St., Melbourne, Victoria. Products Sold: Westrex Corp. line.

CONSOLIDATED THEATRES PTY. LTD., W.A.T.C. Building, 1 Howard St., Perth, Western Australia. Telephone: BF 2222. PERSONNEL—*Managing Director:* R. A. Yelland. *Secretary:* I. E. Furby. Products Sold: Theatre Seats, Equipment.

WESTREX AUSTRALIA PTY. LTD., 447 Murray St., Perth, Western Australia. Products Sold: Westrex Corp. line.

BELGIAN CONGO

PHILIPS CONGO S.C.R.L., Leopoldville. Products Sold: Philips Projection and Sound Equipment.

BELGIUM

BRITISH EQUIPMENT, S. A., 199 Rue Royale, Brussels. Telephones: 17.78.16, 17.39.17. PERSONNEL—*Managing Director:* Capt. R. H. Eliot, M.C. *Technical Department:* Michel Cledes. *35mm. Sales:* I. Punski. *16mm. Sales:* Maurice Eaton. *H. F. & Electronical Division:* Pierre Koob. Products Sold: Gaumont-Kalee, Bell & Howell, Ship Cinema Carbons. AREA SERVED—Belgium, Belgium Congo, Luxemborg.

BROCKLISS SIMPLEX S.A., 249 Rue Royale, Brussels. Products Sold: National Theatre Supply line. COUNTRIES SERVED—Belgium, G. D. Luxemborg.

FIBROCIT, 26 Rue Masui, Brussels. Products Sold: Theatre Seats.

PHILIPS S.A., 37-39 Rue d'Anderlecht, Brussels. Products Sold: Philips Projection and Sound Equipment.

SOCIETE BELGE INDUSTRIELLE, S.A., 14 Square Marie-Louise, Brussels. Products Sold: RCA Theatre and Sound Equipment.

WESTREX CO., FRANCE-BELGIUM, 16 Place des Martyrs, Brussels. Products Sold: Westrex Corp. line. COUNTRIES SERVED—Belgium and Luxembourg.

BERMUDA

BERMUDA GENERAL THEATRES, LTD., Hurstholme, Hamilton. Products Sold: National Theatre Supply Line.

BOLIVIA

PALACIOS Y CIA., S.A., Head Office: Casilla de Correo 648, La Paz. Branches at: Oruro, Cochabamba, Potosi, Sucre, Tarija, Santa Cruz. Products Sold: National Theatre Supply Line.

PHILIPS DELEGATE FOR BOLIVIA: Mr. W. Sneyders de Vogel, Casilla 1609, La Paz. Products Sold: Philips Projection and Sound Equipment.

S. A. C. I., Suers. de Simon F. Bedoya, Casilla 346, La Paz. Products Sold: RCA Theatre and Sound Equipment.

BRAZIL

R. EKERMAN, Rua Senador Dantas 76-15°, Rio de Janeiro. Products Sold: National Theatre Supply Line.

RCA VICTOR RADIO, S.A., Caixa Postal 2726, Rio de Janeiro. PERSONNEL—*Theatre Dept. Mgr.:* J. Wasser. Products Sold: Theatre and Sound Equipment. *Branches:* S. Paulo, Recife, Porto Alegre, Belo Horizonte.

WESTREX CO., BRAZIL, (formerly Western Electric Co. of Brazil) Rua Juan Pablo Duarte 38, Rio de Janeiro. Products Sold: Westrex Corp. line.

R. EKERMAN, Rua Conselheiro Nebias 263-1°, Sao Paulo. Products Sold: National Theatre Supply Line.

S.A. PHILIPS DO BRASIL, Caixa Postal 8681, Sao Paulo. Products Sold: Philips Projection and Sound Equipment.

WESTREX CO., BRAZIL, (formerly Western Electric Co. of Brazil) Rua dos Guaianazes #153, Sao Paulo. Products Sold: Westrex Corp. line.

BRITISH EAST AFRICA

TWENTSCHE OVERSEAS TRADING CO., LTD., Nairobi, Tanga, Mombasa, Kampala, Dar-es-Salaam, Zanzibar. Products Sold: Philips Projection and Sound Equipment.

BRITISH GUIANA

BOOKERS STORES LTD., Motor and Electrical Department, 13-15 Water Street, Georgetown (Demarara). Products Sold: Philips Projection and Sound Equipment.

BRITISH HONDURAS

MACMILLAN BROTHERS, Belize. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Colony of British Honduras.

BRITISH NEW GUINEA

ROBERT GILLESPIE LTD., Rabaul. Products Sold: Philips Projection and Sound Equipment.

BURMA

CINE SUPPLY CO., 264 Barr St., Rangoon. Telephone: South 546. PERSONNEL—*Managing Partner:* Vijay Kumar. Products Sold: RCA Theatre and Sound Equipment, Ross Projectors, Premier accessories. COUNTRY SERVED—Union of Burma.

G. K. THEATRE SUPPLY CO., LTD., Scott's Building, 528 Merchant St., Rangoon. Telephone: S-653. Products Sold: Gaumont-Kalee, Typhoon Air Conditioning Units, Bell & Howell. COUNTRY SERVED—Union of Burma.

TRADING COMPANY LATE HEGT & CO., LTD., 36, Barr St., P.O. Box 200, Rangoon. Products Sold: Philips Projection and Sound Equipment.

CEYLON

*CEYLON THEATRES LTD., 8 Parsons Road, Colombo. PERSONNEL—*Chairman:* Sir Chittampalam A. Gardiner. Products Sold: Gaumont-Kalee, Bell & Howell, Kershaws.

WESTREX CO., INDIA, Iceland Buildings, Galle Road, Colombo. Products Sold: Westrex Corp. line.

CHILE

CORPORACION DE RADIO DE CHILE, S.A., Casilla 1407, Santiago. Products Sold: RCA Theatre and Sound Equipment.

OSSA & MAX, Casilla 9820, Santiago. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Chile.

PHILIPS CHILENA S.A., Casilla 2687, Santiago. Products Sold: Philips Projection and Sound Equipment.

WESTREX CO., ANDEAN, (formerly Western Electric Co., Andean) Edificio Sud America, Bandera Esquina Augustinas, Santiago. Products Sold: Westrex Corp. line.

COLOMBIA

J. GLOTTMANN S.A., Carrera 13 #24-15, Bogota. PERSONNEL—*President:* Jack Glottmann. Products Sold: National Theatre Supply Line and RCA Theatre and Sound Equipment.

PHILIPS COLOMBIANA S.A., Apartado, Aéreo 4282, Bogota. Products Sold: Philips Projection and Sound Equipment.

WESTREX CO., CARIBBEAN, Carrera 5A, No. 19-40, Bogota. Products Sold: Westrex Corp. line.

*CINE COLOMBIA, S.A., Medellin. Products Sold: Gaumont-Kalee, Wenzel Projection and Sound Equipment, Lorraine Carbons.

COSTA RICA

IMPORTADORA FILMICA COMERCIAL, LTDA., Apartado Correo 627, San Jose. PERSONNEL—*Owner and Managing Director:* Carlos Fco. Jinesta. *Owner and Manager:* Charles G. Bertsch. Products Sold: RCA Theatre and Sound Equipment. COUNTRY SERVED—Costa Rica.

PAN AMERICAN TRADING CO., LTD., Apartado 2018, San Jose. PERSONNEL—*Owner and Manager:* Francisco Pena. Products Sold: National Theatre Supply Line. COUNTRIES SERVED—Nicaragua, Guatemala, Costa Rica.

JOSE RAVENTOS, Apartado 1147, San Jose. Products Sold: RCA Theatre and Sound Equipment.

SR. DOMINGO VARGAS A., Distribuidora Modelo, P.O. Box 3675, San Jose. Products Sold: Philips Projection and Sound Equipment.

CYPRUS

D. OUZOUNIAN, M. Soultanian & Co. Ltd., P.O. Box 127, Nicosia. Products Sold: Philips Projection and Sound Equipment.

* Listing not confirmed by Supply Dealer

DENMARK

BANG & OLUFSEN A/S, Bregade 34, Copenhagen. PERSONNEL—L. A. Duus Hansen. Products Sold: National Theatre Supply Line and Philips Projection and Sound Equipment.

NORDISK KINOTEKNIK A/S, Borgergade lo, Copenhagen K. Telephone: Central 8989. Products Sold: Gaumont-Kalee, Ship Carbons, Stage Lighting Equipment.

WESTREX CO. A/S, Vesterport 481, Copenhagen. Telephone: Central 5598. Products Sold: Westrex Corp. line.

DOMINICAN REPUBLIC

CLAUDIO FERNANDEZ, Apartado 826, Ciudad Trujillo. Products Sold: RCA Theatre and Sound Equipment.

JOAQUIN GINEBRA, Apartado 902, Ciudad Trujillo. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Dominican Republic.

ECUADOR

*JAIME PUIG AROSEMENA, Apartado Correos 89, Guayaquil. Products Sold: Gaumont-Kalee.

ELECTRONICA S.A., Apartado 3509, Guayaquil. PERSONNEL—*Owner and Director:* Luigi Rota. *Manager:* Emilio Bini. Products Sold: National Theatre Supply Line and RCA Theatre and Sound Equipment. AREA SERVED—Coast Zone of Ecuador.

WESTREX CO., ANDEAN, Boyaca No. 1011, Guayaquil. Products Sold: Westrex Corp. Line.

PHILIPS ECUADOR S.A., Casilla 2376, Quito. Products Sold: Philips Projection and Sound Equipment.

SOCIEDAD RADIOTECNICA ECUATORIANA, Apartado 414, Quito. PERSONNEL—*Owner and Director:* Luigi Rota. *Managers:* Ing. Igilio Perotti, Lic. Fabián Bucheli. Products Sold: National Theatre Supply Line and RCA Theatre and Sound Equipment. COUNTRY SERVED—Ecuador.

EGYPT

ISIDORE LEVY, Head Office: 22 bis Avenue Fouad 1st, Alexandria. Telephone: 20728. Products Sold: Film and Projection Equipment Accessories, Lorraine Carbons. AREA SERVED — Egypt, Sudan, Lybia, Eritrea.

WESTREX CO., EAST, 22 (Bloc C) Rue Fouad ler, Alexandria. Products Sold: Westrex Corp. line. AREA SERVED—Egypt, Greece, Iran, Iraq, Arabia, Abyssinia, Eritrea, Aden; Italian, French, and British Somaliland; Syria, Lebanon.

PHILIPS ORIENT S.A., 23, Sharia Youssef el-Guindi, Cairo. Products Sold: Philips Projection and Sound Equipment.

W. A. LANCASTER & SON, Head Office: 11 Emad-el-Din St., Cario. Sales: 50, Abd-el-Khalek Saroit St., Cario.

WESTREX CO., EAST, 5, Rue Kasr-El-Nil, Cairo. Products Sold: Westrex Corp. line.

ENGLAND

J. FRANK BROCKLISS, LTD., 27 John Bright St., Birmingham. PERSONNEL—*Branch Manager*: A. B. Boulton. Products Sold: National Theatre Supply Line and Philips Projection and Sound Equipment.

G. B—KALEE LTD., 57 John Bright St., Birmingham. Telephone: Midland 2351. PERSONNEL—*Branch Manager:* Harold A. Richardson. *Divisional Engineer:* H. E. Munslow. Products Sold: Gaumont-Kalee. AREA SERVED—The Midlands.

RCA PHOTOPHONE LTD., 164 Stratford Road, Shirley, Birmingham. Telephone: Shirley Birmingham 1819. PERSONNEL—*District Manager:* S. J. C. Taylor. Products Sold: Theatre and Sound Equipment.

THEATRE SEATS LTD., 160 Cape Hill, Smethwick, Staffs., Birmingham. PERSONNEL—*Directors:* A. J. Dean, C. Pickett, D. Dean. Products Sold: Theatre Seating, Complete Theatre Equipment.

WESTREX CO., LTD., 49 Broad St., Birmingham. Products Sold: Westrex Corp. line.

G. B—KALEE LTD., 9 Park Lane, Cardiff. Telephone: 28861. PERSONNEL — *Branch Manager:* R. H. Evans. Products Sold: Gaumont-Kalee. AREA SERVED — South Wales and West of England.

RCA PHOTOPHONE LTD., 57-59 Charles St., Cardiff. Telephone: Cardiff 30194. PERSONNEL—*District Manager:* J. H. Welch. Products Sold: Theatre and Sound Equipment.

WESTREX CO., LTD., 10 Museum Place, Cardiff, Wales. Products Sold: Westrex Corp. line.

J. FRANK BROCKLISS, LTD., 67 Britannia House, Wellington St., Leeds. Telephone: Leeds 24509. PERSONNEL—*Branch Manager:* W. D. Raphael. Products Sold: National Theatre Supply Line and Philips Projection and Sound Equipment. AREA SERVED — Yorkshire, Lincolnshire, Nottinghamshire, Derbyshire.

G. B.—KALEE LTD., 17 Wellington St., Leeds. PERSONNEL—*Manager:* Dennis V. Sumpter. *Divisional Engineer:* R. S. Folland. Products Sold: Gaumont-Kalee.

FRED V. STEELE LTD., CINEMA & THEATRE SUPPLIER, 7 Stainburn Drive, Leeds 17. Telephone: Leeds 68-2852. Products Sold: Projection, Sound, and Theatre Equipment. AREA SERVED — Yorkshire, Lancashire, Nottinghamshire.

WESTREX CO., LTD., Wellington Chambers, Wellington Street, Leeds 1. Products Sold: Westrex Corp. line.

J. FRANK BROCKLISS, LTD., 167/169 Wardour St., London, W1. PERSONNEL—*Owner:* J. Frank Brockliss. *Director and Manager:* F. E. Durban. Products Sold: National Theatre Supply Line and Philips Projection and Sound Equipment. AREA SERVED—All of Europe.

GENERAL BUILDING & THEATRE EQUIPMENT LTD., Stoll Offices, London Coliseum, London, WC2. Telephone: Temple Bar 1500. PERSONNEL—*General Manager:* Charles Pickett. Products Sold: Complete Theatre Equipment and Supplies.

RCA PHOTOPHONE LTD., Head Office: 36 Woodstock Grove, London, W.12. Telephone: Shepherds Bush 1200. PERSONNEL—*Managing Director:* P. A. Turnor. *Directors:* J. C. Atkinson, C. J. Bridge, W. F. Garling, C. G. Mayer, O. B. E., Sir Louis Sterling. Products Sold: Theatre and Sound Equipment.

WESTREX CO., LTD., Head Office: Liberty House, 222 Regent St., London, W1. Products Sold: Westrex Corp. line.

WESTREX CO., LTD., Foubert's Place, Regent St., London, W1. Products Sold: Westrex Corp. line.

WESTREX CO., LTD., 152 Coles Green Road, Cricklewood, London, NW2. Products Sold: Westrex Corp. line.

J. FRANK BROCKLISS, LTD., 3, The Parsonage, Manchester. PERSONNEL—*Branch Manager:* W. Chilton. Products Sold: National Theatre Supply Line and Philips Projection and Sound Equipment.

*G. B.—KALEE, LTD., 5, The Parsonage, Manchester. Telephone: Blackfriars 1428. PERSONNEL — *Branch Manager:* Harry Mould. Products Sold: Gaumont-Kalee. AREA SERVED — East, West and South Lancashire; part of Cheshire.

RCA PHOTOPHONE LTD., 274 Deansgate, Manchester. Telephone: Blackfriars 7092. PERSONNEL—*District Manager:* A. J. Bush. Products Sold: Theatre and Sound Equipment.

WESTREX CO., LTD., 1 North Parade, Deansgate, Manchester 3. Products Sold: Westrex Corp. line.

G. B.—KALEE LTD., 2 Cross St., Newcastle-on-Tyne. Telephone: Newcastle 23038. PERSONNEL—*Branch Manager:* W. Yeomans. Products Sold: Gaumont-Kalee. AREA SERVED—Northumberland, Durham, Cumberland, North Yorkshire.

CROWE & CO., LTD., 52 Stowell St., Newcastle-on-Tyne. Products Sold: National Theatre Supply Line.

RCA PHOTOPHONE LTD., 36 Clayton St. W., Newcastle-on-Tyne. Telephone: Newcastle 27771. PERSONNEL—*District Manager:* R. T. Wheatley. Products Sold: Theatre and Sound Equipment.

WESTREX CO., LTD., 1 Charlotte Sq., Newcastle-on-Tyne. Products Sold: Westrex Corp. line.

WESTREX CO., LTD., Angel Row, Nottingham. Products Sold: Westrex Corp. line.

A. BUCKLEY, 9 Branch Road, Batley, Yorkshire. Telephones: Batley 431, Morley 902. Products Sold: Projection, Sound and Theatre Equipment.

ETHIOPIA

PHILIPS ETHIOPIA S.A., Addis Ababa. Products Sold: Philips Projection and Sound Equipment.

FINLAND

AMPRO-MYYNTI, OY, Fredikinkatu 20-A, Helsinki. PERSONNEL — *Manager:* Kai Nordlund. Products Sold: National Theatre Supply Line.

G. W. BERG & CO., 14 Fabiansgatan, Helsinki. Products Sold: RCA Theatre and Sound Equipment.

FINSKA A. B. PHILIPS, Postfach 255, Helsinki. Products Sold: Philips Projection and Sound Equipment.

FRANCE

BROCKLISS SIMPLEX S.A., 295 Cours de la Somme, Bordeaux. Products Sold: National Theatre Supply Export Line.

BROCKLISS SIMPLEX S.A., 102 La Canebiere, Marseille. *Manager:* Henri Barody. Products Sold: National Theatre Export Line.

WESTREX CO., FRANCE-BELGIUM, 3 Cours Joseph Thierry, Marseille. Products Sold: Westrex Corp. line.

BROCKLISS SIMPLEX S.A., 6 Rue Guillaume Tell, Paris 17e. PERSONNEL—*General Manager:* Albert Gillet. *Branches:* Bordeaux, Marseilles, France; Brussels, Belgium. *Agents:* Algiers, Algeria; Casablanca, Morocco; Bienne, Switzerland. Products Sold: National Theatre Supply Line. AREA SERVED—France, French Colonies, Switzerland, Belgium.

S. A. PHILIPS ECLAIRAGE ET RADIO, 11, Rue Edouard Nortier, Paris. Products Sold: Philips Projection and Sound Equipment.

STE. DES THEATRES CINEMATOGRAPHIQUES PATHE, S.A., 6 Rue Francoeur, Paris 18e. PERSONNEL—J. Ottoz. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Algiers, France.

WESTREX CO., FRANCE-BELGIUM, Head Office: 120 Avenue des Champs Elysees, Paris. Products Sold: Westrex Corp. line.

GERMANY

DEUTSCHE PHILIPS G.m.b.H., Möncke-bergstrasse 7, (24a) Hamburg 1. Products Sold: Philips Projection and Sound Equipment.

GOLD COAST

SOCIETE COMMERCIALE DE L'OUEST-AFRICAIN, Accra. Products Sold: Philips Projection and Sound Equipment.

GREECE

CHARILAOS PETROPOULOS, 51 El. Venizelou Str., Athens. Products Sold: RCA Theatre and Sound Equipment.

PHILIPS S.A. HELLENIQUE COMMERCIALE DE PRODUITS ELECTROTECHNIQUES, P.O. Box 153, Athens. Products Sold: Philips Projection and Sound Equipment.

SPYROS D. SKOURAS, 5 Santarosa St., Athens. Telephone: 21-824. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Greece.

GUAM

J. G. LITTLE COMPANY, P.O. Box 40, Agana. Products Sold: Philips Projection and Sound Equipment.

GUATEMALA

PHILIPS DE GUATEMALA S.A., P.O. Box 238, Guatemala City. Products Sold: Philips Projection and Sound Equipment.

ADOLFO RIOS, P. O. Box 97, Guatemala City. Products Sold: RCA Theatre and Sound Equipment.

RAMIRO SAMAYOA M., Avenida Elena 14-75, Cine Popular, Guatemala City. Products Sold: National Theatre Supply Line. COUNTRY SERVED—Guatemala.

E. F. TOPPE, Callejon Castillo No. 7, Guatemala City. Products Sold: Westrex Corp. line. AREA SERVED—Guatemala, El Salvador, Honduras, and British Honduras.

HAWAII

CONSOLIDATED AMUSEMENT CO., LTD., Merchandise Department, 1120 Bethel St., Honolulu 11. Telephones: (Emergency Night) 32449, 94984. PERSONNEL—*Manager Merchandise Department:* J. A. Madden.

*THEATRICAL EQUIPMENT CO., 2826 S. King St., Honolulu 72. Telephones: 94287, 990958. PERSONNEL—*Business Manager:* Hal Lewis. *Prod Manager:* E. L. Carlson. Products Sold: B. F. Shearer Supply line. AREA SERVED—Hawaiian Islands.

HONDURAS

ESTEVEZ Y LAZARUS CLAMER, Apartado Postal 110, Tegucigalpa. Products Sold: RCA Theatre and Sound Equipment.

OSMOND MADURO, Apartado 213, Tegucigalpa. Products Sold: National Theatre Supply Line.

HONG KONG

ELEPHANT RADIO & ENGINEERING, 209 Bank of East Asia Bldg., Hong Kong. Products Sold: Custom made equipment, RCA Theatre and Sound Equipment, National Theatre Supply Line.

MAITLAND & CO., G.P.O. Box 2287, 615-16 Marina House, Queen's Road, Central, Hong Kong. PERSONNEL — Robert Maitland. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Hong Kong.

PHILIPS INDUSTRIES FAR EAST LTD., P.O. Box 2108, Hong Kong. Products Sold: Philips Projection and Sound Equipment.

WESTREX CO., ASIA, 304 Victory House, Wyndham St., Hong Kong. Products Sold: Westrex Corp. line. AREA SERVED—Hong Kong.

MANNERS ENGINEERING, LTD., Alexandra House, Hong Kong. PERSONNEL—*Manager:* R. V. Rose. Products Sold: Gaumont-Kalee and Cinetechnic. AREA SERVED—Hong Kong, Macao, China.

ICELAND

SNORRI P. B. ARNAR, P. O. Box 354, Reykjavik. Products Sold: RCA Theatre and Sound Equipment and Philips Projection and Sound Equipment.

INDIA

CHICAGO TELEPHONE & RADIO CO., LTD., 94, Sri Narasimharaja Road, Bangalore 2. Telephone: 3833. PERSONNEL — *Branch Manager:* M. G. Damodaran. C. K. Vasudev Rao, B.Sc., D.M.I.T.; E. B. Devarajan, B.Sc. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

*CINE SUPPLIES LTD., 5th Main Road, Gandhinager, Bangalore City. Products Sold: Gaumont-Kalee.

EVERGREEN PICTURES, Municipal Park, Bhusawal. Telephone; 63. PERSONNEL—*Partners*: N. C. Kapadia, M. C. Kapadia, Mrs. P. C. Kapadia, H. C. Narterwalla, S. N. Kotwal, E. C. Naterwalla, M. N. Kapadia, M. R. Kapadia, J. R. Kapadia. *Branch Manager*: P. M. Patel. Products Sold: National Theatre Supply Line. AREA SERVED—Madhya Pradesh, Madhya Bharat, Madhya Rajasthan.

THE CINE AGENCY (INDIA), 16 New Queen's Road, Bombay 4. Products Sold: Zeiss Ikon, Stuttgart 35 and 16mm. Cinema and Sound Projectors and Accessories.

CINEFONES, 3, New Queen's Road, Bombay 4. PERSONNEL—*Managing Partner:* S. B. Agarwal. Products Sold: Theatre Equipment and Accessories. AREA SERVED—Bombay Presidency.

EASTERN ELECTRIC & ENGINEERING Co., 127 Mahatma Gandi Road, Post Box 459, Bombay 1. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

EVERGREEN PICTURES, 15 New Queen's Road, Bombay 4. Telephone; 26952. PERSONNEL—*Partners:* N. C. Kapadia, M. C. Kapadia, Mrs. P. C. Kapadia, H. C. Narterwalla, S. N. Kotwal, E. C. Naterwalla, M. N. Kapadia, M. R. Kapadia, J. R. Kapadia. National Theatre Supply Line. COUNTRY SERVED—India.

*GAUMONT-KALEE, LTD., Forbes Building, Home St., Bombay. Products Sold: Gaumont-Kalee.

PHOTOPHONE EQUIPMENTS, LTD., 9 Marine Lines, Bombay 1. PERSONNEL—*Managing Director*: M. A. Fazalbhoy. Products Sold: RCA Theatre and Sound Equipment, National Theatre Supply Line, National Carbons. AREA SERVED—India, Pakistan, Burma, Ceylon, Afghanistan.

*RAVEL SONS, Shradhanad Road, Bombay 24.

WESTREX CO., INDIA, Head Office: Metro House, Esplanade Road, Bombay 1. Products Sold: Westrex Corp. line. AREA SERVED—India, Burma, Ceylon.

CHICAGO TELEPHONE & RADIO CO., LTD., 25 Chowringhee, Calcutta. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

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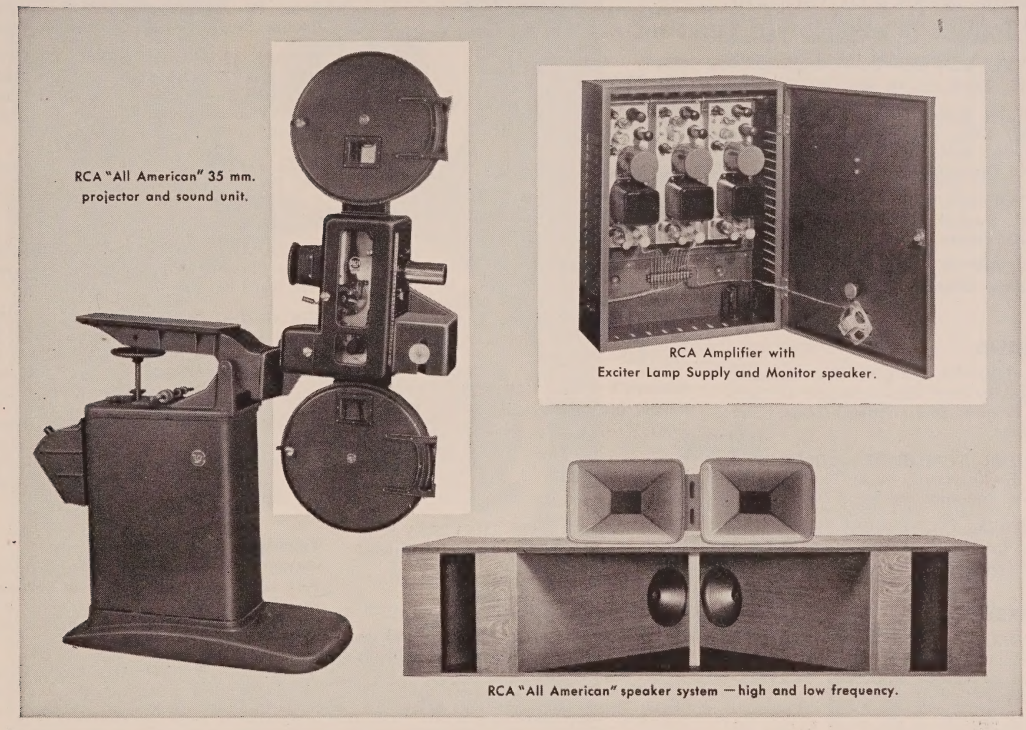

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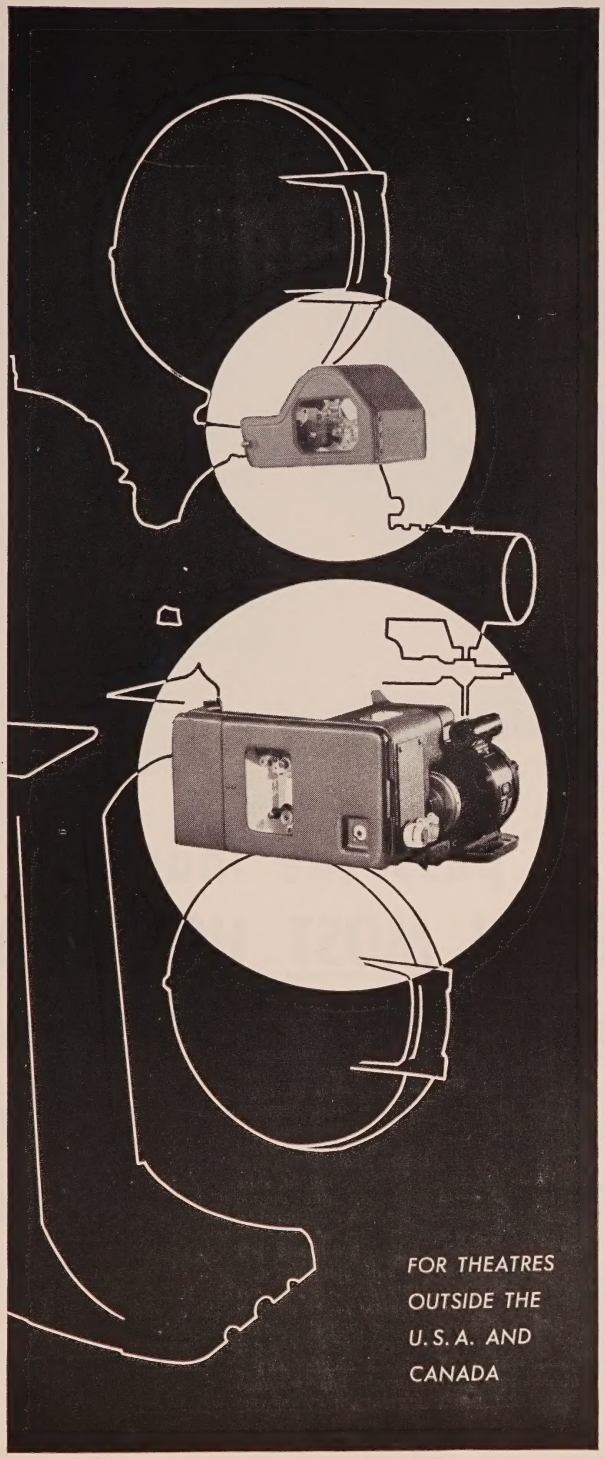

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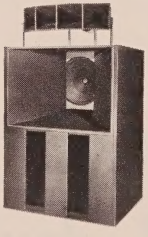

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EXTRA PROFITS

1955-56

Outdoor Extra Profits

A Guide to the Basic Considerations and Problems Involved in the Successful Operation of a Concession at a Drive-In

Many of the suggestions concerning drive-in refreshment service contained here will have to be adapted to specific needs and problems. The layout of the stand, for instance, will depend on the car capacity of the drive-in, size of the concession building, local tastes, and items served.

However, there are certain prime requisites for successful operation that are applicable to all concessions, regardless of size, or any other individual characteristics.

Basic Considerations

One of these essentials is proper location. Your concession should be located as near as possible to the center of your parking area to make it conveniently accessible to your patrons. Operators who have had their refreshment service in some other spot have found that moving to a central location has increased sales 35 per cent and more. Existing theatres may effect this profitable move by relocating their concession operation to the same building occupied by the projection room.

Speed of service is the second basic requisite for drive-in concessions. Nothing scares away potential customers as fast as the prospect of having to wait a long time for service. Proper layout of your concession stand, adequate personnel to handle crowds, modern equipment, and thoughtful organization all play an important role in enabling you to provide the fast efficient service necessary to handle a lot of customers during the short break periods.

BRIEF: ***The situation has reached the point where today there are few . . . if any . . . outdoor theatres that can afford not to give a good deal of thought and attention to their refreshment facilities . . . The concession has shown a steady growth . . . and the exhibitor needs information on the many facets of this operation if he is to get the maximum revenue to be found in proper extra profits activities . . . This article attempts to give the reader a solid foundation on which to build his own refreshment stand operation . . . Such important subjects as what items to carry . . . preparation of foods . . . storage considerations . . . proper equipment . . . layout and design of the stand . . . merchandising activities . . . training and supervising of sales staffs . . . etc. . . . are all given close scrutiny . . . Naturally . . . conditions will vary with the individual situation . . . However . . . as in most things . . . there are fundamentals which can be adapted to fit . . . It is the aim of this article to furnish those fundamentals of concession stand operation.***

To assure the most successful operation possible, there are two other basic requirements which will demand your constant attention: cleanliness and quality. Without these essential characteristics of a well-run concession your sales will show a steady decline. Nothing alienates a customer more than to feel cheated on the quality of the refreshments he buys, unless it is being served by stand attendants who aren't spic and span. It might seem ridiculous to stress such obvious fundamentals, but you can never be too emphatic in your insistence on serving only the best quality items and on the scrupulous cleanliness of your stand and operating personnel.

With these basic considerations well taken care of, you can then turn your attention to all the other factors upon which the success of your concession operation depends.

Important Questions

To operate your concession with maximum efficiency for maximum profit, here are some of the first questions that you must answer. What items am I going to handle? . . . What is their gross profit potential? . . . What is their anticipated turnover? . . . What volume can I expect? . . . Do I have an adequate electric supply? . . . Do I have an adequate supply of filtered water? . . . Which is the most economical to operate, gas-fired or electrical equipment? . . . What must I do to merchandise popcorn and soft drinks properly?

It is the purpose of this article to supply helpful hints on how to arrive at the correct answers to these questions, as well as others about layout, equipment, and supplies.

WHAT ITEMS TO CARRY

The basis for any sound business lies in demand . . . in the market that exists for the product or service to be sold.

THE concession at the Sundown Drive-In, Mandan, N. D., is an example of a well organized operation that will mean more profits for all.

IT IS of the utmost importance that the concession stand handle the proper items properly stocked and stored. Seen is a helpful guide.

In addition, when choosing items for your drive-in concession, you should consider their gross profit potential. Those items with best potential turnover and highest potential gross profit should be given first choice of your space. You have a large investment in thousands of feet of concrete and steel. Returns on this investment can well be calculated in terms of dollars per square foot of floor space.

That is why popcorn has long been the universal refreshment favorite of theatre operators. There is always a tremendous demand for popcorn and it has the highest gross profit potential of all the items commonly sold at a concession stand, hence it should be given first choice of space in your operation. Soft drinks, such as cola, orange, root beer, etc., also have universal appeal and are high grossers which should be merchandised. Cater to the tastes of the patrons in your area, giving preferential position to those soft drink flavors that sell best.

Policy Dictated by Circumstances

Other items, such as hamburgers, hot dogs, coffee, ice cream, candy, and the like are good sellers. Once again, depending on your own circumstances, these items should be given third, fourth, and fifth class space in the order of their importance to you.

A practical candy policy for drive-in theatre operation is to handle not over three varieties of five cent sellers, three varieties of 10 cent sellers and three varities of 25 cent sellers, in addition to gums and mints. This is a very sharp reduction in variety. Past experience has proven that over-all volume can be maintained and gross profit increased if this policy is adhered to.

Here is a special point worth remembering—in a drive-in operation you should confine yourself to those items which can be prepared speedily and

SUGGESTED MENU AND PRICES:

a. **Popcorn—regular size box** 10c
Jumbo—5 oz. box 25c

b. **Cold drinks—7 oz. cup** 10c
Jumbo refresher—large 14-oz. cup 20c

c. **Regular French Fries, or French Fried Curly-Q Potatoes** 20c

d. **Deviled meat sandwiches** 20c

e. **Hot dogs** 25c

f. **Barbequed beef sandwiches** 30c

g. **Hot coffee** 10c

h. **Hamburgers** 30c

i. **Ice cream—cup and bars** 10c

j. **Candy** 5c
Candy 10c
Candy 25c

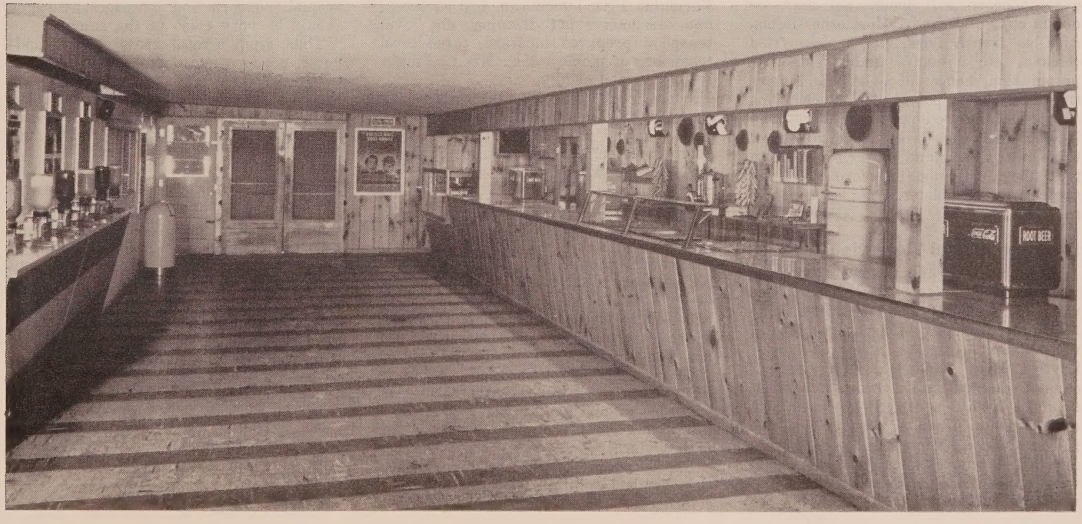
k. **Toddy, or dairy product equivalent** 20c

SUGGESTED STARTING INVENTORIES:

In order to assist you in anticipating the amount of storage space you need, the following minimum inventories are suggested. When ordering, be sure to buy the minimum quantity in order to take advantage of any and all freight savings.

ITEM	HOW SENT
Popcorn Seasoning Salt Cartons Cups Drive-In Trays	As needed, in standard pack, keeping approximately four weeks supply in advance. See that all shipments total 100 pounds.
Drink Syrup	As needed—in 20 or 40 gallon quantities.
Toddy or dairy product equivalent	As needed. Dairy will deliver three or four times weekly. Toddy should be ordered every other week.
Deviled Meat	Three to five cases, depending on minimum shipment. Keep two weeks supply in advance.
Barbequed Beef	One to three cases, depending on minimum shipment. Keep two to four weeks supply in advance.
Candy	As needed. No more than four weeks supply in advance.
Coffee	As needed. In cases of 64 2½ oz. packages. Keep two weeks supply in advance.
Potatoes	In 100 lb. bags.
Spudsaver	One gallon quantity.
Deep fat fry cleaner	Five pound quantity.
Glassine Bags	(Potato serving) 2,000, additional as needed.
Insert Napkins (absorbent)	Season supply, case of 10,000.
Flat Napkins (for wrapping hot dogs and barbecue)	Season supply, 15,000.
Coffee Mixers (flat wooden 5½" sticks)	Season supply, case of 5,000.
Straws—Jumbo—Unwrapped	Season supply, 1 case of 50 packages.

THE DECISION to use either cafeteria type of service or counter service depends on the individual drive-in. Seen here is the attractive counter type service area used in Starlite Drive-In, Lansing, Mich.



MERCHANDISE should always be well-displayed and attractively advertised. Such proper merchandising usually increases concession sales.

stored in a minimum amount of space. The following items fall into this category: popcorn, soft drinks, hot dogs, ice cream cups and candy. Most other items, such as french fries, pizza pies, fried chicken, etc., require more elaborate preparation, hence more help and more time. The sales potential of such items should be analyzed very carefully. Then if you feel they are worthwhile, put them into your stand in such a position that they will not interfere with the dispensing of faster, more profitable merchandise.

Require Special Attention

As mentioned above certain items require special attention and should be used if it is deemed profitable. The following are suggestions on a few of these items:

Deviled Meat Sandwich: Composed of canned deviled meat, salad dressing, mustard, pickle relish. Properly mixed, each five ounce can of meat yields five full sandwiches. These can be made up in advance in quantity desired, wrapped in wax paper, ready for serving. Sandwiches should not be left over for the next day; shelf life is no more than 12 hours.

Formula: Five ounce can deviled meat, one teaspoon salad dressing, one level teaspoon prepared mustard, three level teaspoons of pickle relish. Mix thoroughly and spread evenly.

French Fried Potatoes: Materials necessary for the operation of Curly-Q or French Fried potatoes are: a slicker or "stringmaster" to cut potatoes; chemical-like "spudsaver" to prevent the potatoes from discoloring; polyethylene bags for storing your prepared potatoes; deep fryer to fry them, and salt to season.

Potatoes should be purchased in 100 pound sacks and stored in a cool place. Only U. S. No. 1 should be used, preferably White Burbanks or Idaho Russets. Wash carefully, cut out bad spots. Do not peel or slice.

If a stringmaster is used, fasten it firmly on a work table, clean thoroughly with brush and water after use. This instrument needs no sharpening or maintenance.

Sliced potatoes should be dumped into the chemical solution that prevents discoloring immediately, since the potatoes will start turning color within five minutes after cutting. After the potatoes have been dipped in the solution they should be placed in special bags for storage in the refrigerator. Bags prevent drying out as well as easing the handling and storing problem. Once the potatoes are packed, they are ready for frying. Long strips should be broken into six or eight inch lengths. Fine shavings and uncut ends should be thrown away. Excess water should be drained off so the potatoes are dry. This is important as excess water increases frying time and causes splattering of grease.

Your fat fryer should be kept on the back bar in full view of the customer. Properly used, it has eye appeal and plenty of capacity. It must, however, be cleaned regularly. Wipe down thoroughly after day's use; drain and clean thoroughly once a week.

This brief discussion of just two of the items that can be served at a concession stand should indicate that care that must be taken in order to sell these products at a maximum profit.

Anticipated Turnover

In conventional theatres the distribution of sales, generally speaking, is popcorn 50 per cent, soft drinks 15 per cent, candy and ice cream 35 per cent. In drive-ins we find the distribution to be somewhat different. In summer operation soft drinks are usually better sellers than any other single item. Popcorn and sandwiches will gross about the same, between 22 and 45 per cent. Candy and ice cream will make up the balance with candy bringing in twice as much as ice cream. These percentages can be varied considerably through price policy and relocation of the merchandise within the stand.

During the fall and the winter months demand for soft drinks fall off, while the demand for popcorn and hot beverages, such as coffee, will rise. For a drive-in theatre which operates the year around, popcorn and beverage averages should be very close to the same.

Thus, from a total gross profit standpoint, popcorn and soft drinks should be given preferential position, up front in the counter where there is no possibility of their being missed. Candy, ice cream and sandwiches should be given second positions.

Expected Volume

There are as many different rules of thumb in determining concession volume as there are types of businesses and variations in sales policy. Generally speaking, however, a conventional theatre operator can figure on selling about 70 per cent of the people passing through the doors.

In a drive-in theatre it is harder to determine an accurate average because of the variations in pricing the merchandise and the type of merchandise handled. Our minimum figure of sales to 70 per cent of the people, however, will still apply so long as you have the proper facilities to wait on them when they want something.

When in a conventional theatre you average in the neighborhood of seven cents to eight cents per person, you are getting your share of the business. Under certain special conditions sales per person may run as high as 14 cents.

Some drive-ins sell chicken and shrimp dinners. Naturally, their sales per person are very high. Some theatres may sell hot dogs and hamburgers for 35 cents a piece, others for 30 cents. Here again there will be a natural difference for sales per person. However, so long as you count unit sales per person, you come up with a pretty fair average.

By properly anticipating your concession volume based on the capacity of your place of business, you can determine the most economical size of your snack bar, proper storage, make arrangements for help, etc.

Adequate help, plenty of serving room for them to maneuver in, adequate storage are all musts. But the biggest must of all is plenty of convenient waiting room for those patrons waiting for service. Again, nothing scares away patrons more quickly than a large crowd, a small stand, and inadequate service. Your stand should look adequately staffed so the patrons will be served promptly, and so that a latecomer can say to himself, "It won't take long."

Storage Space

Provision for adequate storage space is another of those seemingly obvious details which, if not properly planned, can mean lost sales. There must be ample and convenient storage close to your stand to take care of your needs between deliveries. This storage space must be handy to your stand operators so that they may quickly and easily restock racks and display shelves, as well as keep all equipment fully supplied for speedy, undelayed service.

Other Important Considerations

Be sure to give your contractor the electrical specifications of all equipment you plan on putting in the stand, and then insist on an adequate factor of safety. You never know, your stand may be too small, or larger equipment might be needed. You do not want to be caught short on your electrical supply.

An adequate water supply is all important. Too many people take this plentiful commodity too much for granted. If you install fountain-type drink equipment, double check to be sure you have an adequate source of filtered water.

If you drill a well, put a filter in front of your water pump and it might be a good idea to put one in front of your drink machine, too.

Fine ground sand, pumice and the like can completely wreck a water pump. It has been estimated that over 70 per cent of the water pump difficulty experienced by drink machine operators could have been eliminated by a 10 dollar filter.

As a general rule, electrically operated equipment is safer, surer, and more easily controllable than gas-fired equipment. Where your electrical supply is inadequate and there is little chance of doing anything about it, of course, gas equipment is a must. Be sure, however, that you comply with all local safety codes and regulations, as an open flame can be dangerous. Electric heat can be safely and easily controlled by a thermostat. With an open gas flame, such control is exceedingly difficult. One must usually rely on the good judgement and common sense of stand personnel.

The most business-like manner of handling inventories is to have as little on hand as possible. More people have gone broke because of inventory and market juggling than any other cause. A simple concise daily report based on usage, filled out by the stand manager each day is your most convenient means of keeping track of inventories. In that way you can reorder quickly and easily, keeping your investment to an absolute minimum. That way you lessen the danger of spoilage and eliminate dead items or slow movers from your counters.

MERCHANDISING

After you have bought and placed your equipment, merchandising becomes largely a matter of suggestion. But as a concession operator you should know the importance of such suggestion, because proper merchandising will always mean bigger profits.

A neat, spotless attractive stand . . . eye-catching, prominent displays of as many of your items as possible . . . fast, friendly service, and similar basic considerations are all merchandising "musts." After that it's the "extras" that pay off in extra profits.

You should make use of banners, streamers, counter cards, decorations, back bar displays—any such easily made attention-getters to offer suggestions to your patrons.

Trailers and slides advertising your refreshment service will boost sales if shown on your screen prior to the break. Transcriptions over your loudspeaker system is another similar sure-fire way to increase concession business. Special tricks like posting selected license numbers or program numbers as winners of free refreshment items will also lure patrons to your stand. If you use any such device, be sure to post the numbers at the stand so that your customers have to go to the stand to find out if they are among the winners.

Whatever you do, remember that merchandising is the key to more concession profits. You've got to attract them, show them, tell them . . . then sell them.

Boost Sales and Profits

Here are some merchandising and sales training tips to help boost your sales and profits.

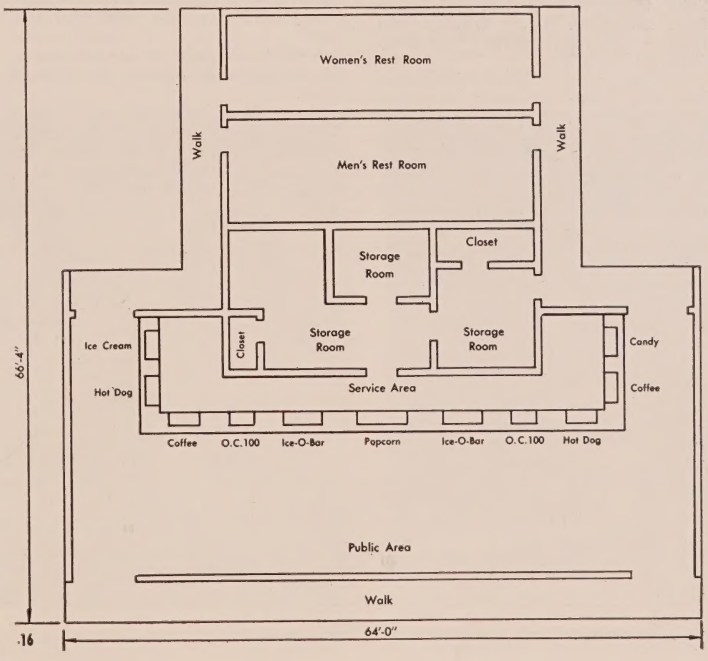
Serve fresh popcorn. Keep it popping and you will keep them stopping. What must you have if you are going to get the maximum out of popcorn sales?

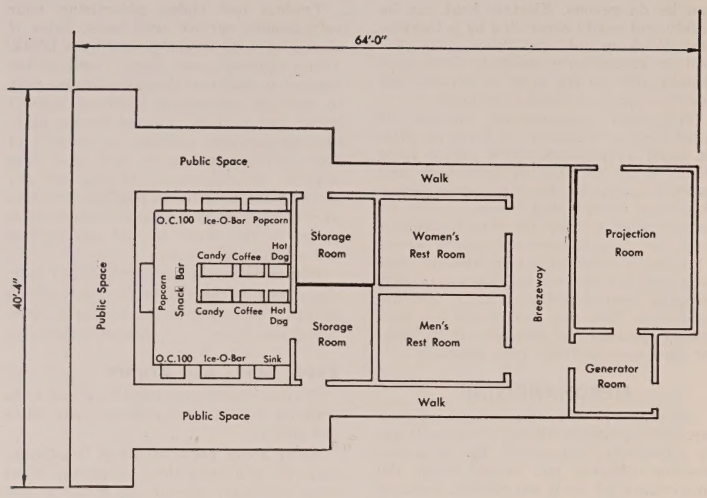
a. Spotlessly clean machine inside and out.

b. A few kettles of popcorn should be popped immediately before the break. Timing is all important.

c. Avoid allowing your operator to pop all of her anticipated requirements when she comes on duty. A dead machine means no sales. If you have a surplus of popcorn put seasoning in your kettle and turn it on low heat. This will at least produce a little aroma to pep up sales.

THIS STYLE of counter layout is usually found converted to cafeteria service. Traffic flows right and left from popcorn machines with checkout stand at either end of the building. With two-line service, one side of stand can be closed on off-nights. It should be remembered that there is no one design right for every drive-in. The right stand depends on space, volume, and the products you want to sell.





THIS is a standard island type of set-up. It has two stations for each product with enough counter space for prominent display of popcorn and soft drink machines; the two best sellers.

d. Frequently check and test your ingredients. Use the exact measure of raw corn and seasoning required for your kettle, no more, no less. One full turn of your seasoning pump at the stage it has been set, an accurate measure of salt, a level cup of corn means delicious popcorn, good volume and good sales.

e. Strain out old maids after each kettle is dumped. If allowed to accumulate they build up in a mass which sometimes finds its way into the customer's box. Results: Lost fillings, bad temper, no business.

f. Uniform packaging. Fill box level full, not heaping. No need causing work for the janitor. Use the scoop with a light motion, working from side to side from the edges. Heavy breakage and losses result from inserting the scoop directly into the corn.

Cold Beverages. Nationally the sale of cold soft drinks to theatre audiences, both indoor and outdoors, is showing a decided increase. The following are a few sample sales suggestions.

a. The more popcorn you sell properly salted, the more beverage sales you make. Push these two items.

b. Again, clean equipment inside and outside.

c. Proper equipment to dispense consistent cold drinks just as fast as you need them, 38 degrees to 40 degrees is a must.

d. Orange tanks of the visible counter type should be kept full, the pump on, and the bowl clean.

e. Check mixing rations carefully. Be sure the machine is delivering the proper drink.

f. If your fountain is not throwing the proper amount of syrup, or if your carbonation is off, get a reputable service man immediately.

g. It is important that you have your operator keep cups in a clean and sanitary place. Never sell a soiled or crushed cup.

h. Use your point of sale advertising. It does not make money in the stock room.

Candy. Most Americans have a sweet tooth so there is no particular problem involved in selling candy. There are, however, a few basic fundamentals in its merchandising which we will outline here.

Use mass display in setting up your cases. Stack candy five to seven inches high, neatly, evenly. Avoid blank spaces in the case.

Watch your color arrangements. Use contrasting colors to set off varieties of bars. For example, Mounds next to Hersheys loses sales. Too much brown.

Give preferential space in your case to higher price items. It is also important that you school your sales personnel so they will know the makeup of the bar you are selling, so that if a patron requests a certain brand of chocolate bar that is not in stock, the attendant can immediately suggest another chocolate bar that is available.

There is no excuse for selling stale candy. In refilling cases, always place the oldest bars on top. The same principle applies to your stock room, move oldest merchandise forward as new shipments are received.

Staff Meetings

Most theatre operators hold a weekly meeting with their sales personnel. Those who do not are making a mistake. Friday is a good day for these meetings, so your personnel is geared for weekend business. Detailed study and discussion on all merchandise, suggestions such as those found here, as well as any of your own which have proven successful, should be held during these meetings.

Check up on sanitation and cleanliness around the sales area and stock room, including all equipment understock and back bar area.

Explain any new merchandise being featured, such as what it is made of, and why and how they should sell it.

The correct way to make change, complete each sale, getting the money for it before starting a new transaction are important topic for staff meetings. Proper instruction here means reduced shortages.

Use and discuss sales quotas and campaigns. However, keep the mechanics simple so that everyone understands them. Announce the program from week to week. Don't hold back on praise or commendation.

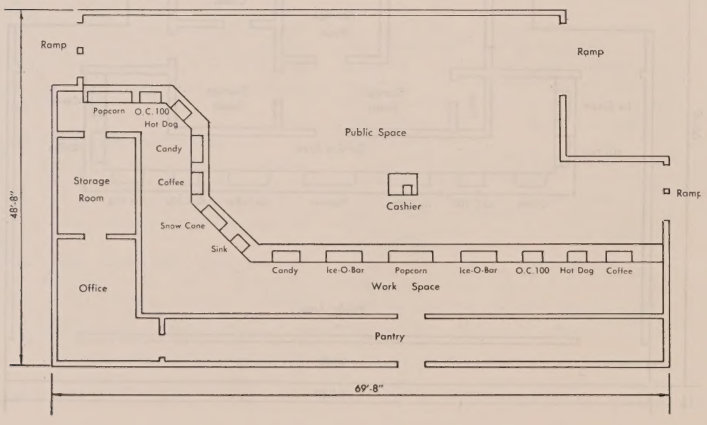
Sales Attendants

Too much stress cannot be given on competent sales personnel. You can spend a lot of money on the finest building, the finest equipment, or point of sale advertising, and top quality merchandise, yet your results will be an absolute zero if your sales personnel look and act glum and unhappy.

What makes a good sales girl?

1. Personal appearance, good grooming, judicious use of cosmetics, clean finger nails and hands, clean uniform.

2. A good smile, not flippant, not flirtatious. Whoever said, "if you can smile you can sell," had a point. You can al-



THIS long cafeteria counter will serve a very large drive-in. Checkout stand is in public space directly opposite the popcorn machine.

ways hire a dullard; why not concentrate on finding sales people who can smile.

3. "Thank you," "May I help you," "May I suggest," are always in her vocabulary.

4. She knows her merchandise. She can instantly suggest a similar item in lieu of one asked for. She knows that the merchandise she sells is the best obtainable. She is alert to customer demands and informs her manager promptly of fast or slow sellers.

5. She is enthusiastic; a most important ingredient. Why is it one girl behind the counter, same merchandise, same customers, can sell twice as much as another? The answer is enthusiasm, a warm smile, and genuine desire to serve.

LAYOUT

There is no one concession stand layout that is right for every drive-in location. What is best for one operation might be highly unprofitable for another. The proper design for you depends on the space available, the volume expected and the refreshments offered.

Capacity Important

In general, the type of service employed in your concession stand is governed by the capacity of your drive-in. It has been found that in the smaller drive-ins—400 cars or less—the patrons can be serviced more quickly and more economically with station-type service. In outdoor theatres with a capacity of 800 cars or more, cafeteria-style service is usually most practical. For speedy, efficient service in an operation handling from 400 to 800 cars, the proper type of service seems largely to depend on opinion, attendance, and length of the break.

Counter Space

The counter space available to patrons is an important consideration because congestion must be avoided to the utmost extent to assure maximum profits. This is true no matter which type of service you choose.

Experience has proved that the following lengths for different size drive-ins usually have proved efficient:

Capacity	Counter Length
Under 400 cars	25 to 35 feet
400 to 500 cars	35 to 40 feet
500 to 600 cars	40 to 45 feet
600 to 700 cars	45 to 55 feet
700 to 800 cars	55 to 65 feet
Over 800 cars	65 to 75 feet

In station service you should allow no more than 12 feet of counter space or working position, to be handled by any one person. In longer cafeteria-style operations, more than one checkout should be provided to speed up service, and the aisle should always be wide enough to allow patrons to pass one another.

Pictured in this article are some designs that have proved efficient in various size operations. One of these, or an adaptation of one, should work well in your drive-in. Any of these designs is readily adaptable either to station or cafeteria service depending upon your specific needs and desires.

SELECTION OF EQUIPMENT

What should you look for in the equipment you choose for your operation? Adequate productive capacity and adequate storage capacity are, of course, a must. If you expect 2,000 people on a Sunday, you cannot expect drug store equipment to satisfactorily take care of that crowd in 15 minutes. So, your first thought must be to buy equipment which will serve your anticipated number of patrons during the break time allowed for in your theatre.

In a drink machine, you want adequate carbonation capacity and flow capacity, together with some sort of display and plenty of advertising to let people know what you have and that you can service them quickly.

In popcorn you want a machine that is big enough to produce your needs quickly, flashy enough to attract attention and hold attention, big enough to make your display look large. Keep the popcorn popped and, where possible pop popcorn while the people are there. Then they know it is freshly popped and delicious.

Stress Eye Appeal

Some people feel that they can buy the basic productive equipment and then build in their own cabinets, storage facilities, or the like. Without exception most of these people later found that eye-appeal is necessary. Almost invariably the drive-in theatre which uses popcorn equipment of conventional design, and manufactures its own drink equipment, winds up selling more popcorn than soft drinks. Conversely, the drive-in which uses commercial-type popcorn equipment and standard-manufacture drink equipment will sell more soft drinks than popcorn. Where both types are of conventional design and of adequate capacity, and the equipment has been properly placed, sales are about equal. In popcorn equipment, to eliminate muss and to keep your help interested, you should insist on as many semi-automatic features as possible, so long as they are practical. There also should be adequate storage for one day's business either built into the equipment, or right beside it.

Your choice of other equipment depends, again, on capacity needed and the items you choose to offer. As with all your equipment and supplies, be sure to deal with a reputable manufacturer, one who can meet your specific need and who offers you the right machine to do the required job.

ACKNOWLEDGMENT

The staff of THEATRE CATALOG wishes to thank Mr. Charles G. Manley, and Manley, Inc., for furnishing the bulk of the information and illustrations used in this article, and for the splendid cooperation given.

IN A GOOD many cases the success or failure of a concession stand will depend on merchandising. It is important to capitalize on such things as stunts during Popcorn Week, and similar promotions.

ACTRESS Lori Nelson demonstrates the type of smile and attitude that helps make sales.

Increasing Your Beverage Sales

A Discussion of the Various Methods Which Have Proven Successful in Helping to Increase the Sale of Beverages at Concession Stands

BRIEF: ***There is no arguing with the fact that the primary function of a theatre's concession operation . . . as it is with every other commercial enterprise . . . is to make money for its operator . . . Therefore . . . it also follows that these areas should feature the items that have the highest profit potential . . . and an item which certainly is in this category is beverages . . . This article . . . prepared by the Fountain Sales Department of the Coca-Cola Company . . . offers the reader many valuable suggestions on how to increase the sale of beverages in a theatre . . . Some of the subjects discussed include selection of beverages to stock . . . equipment requirements and maintenance . . . how best to serve drinks in a theatre . . . and suggested advertising and publicity methods . . . The reader will find much here that will be of genuine value in improving his overall concession operation in general . . . and in the sale of beverages in particular.***

Once upon a time, a motion picture theatre sold only one thing: entertainment. But the customers got smart. They began stopping in the Sweet Shoppe next door before the show . . . bringing bags of candy and other goodies with them into the theatre. They stopped at the Sweet Shoppe *after* the show, too . . . for refreshment on the way home.

Then *exhibitors* got smart . . . and the modern theatre refreshment stand was born. Today, this vital part of theatre operation does a half-billion dollar annual business. More important: by giving patrons a *complete entertainment experience,* the refreshment stand helps keep satisfied customers coming back.

Once upon a time, the question in an exhibitor's mind was "refreshment stand or no?" Now he has the refreshment stand. The only question is how to coax bigger and bigger profits from more and more happy patrons.

Beverages Increase Profits

The Fountain Sales Department of The Coca-Cola Company is an organization of almost 400 specialists in just this sort of operation. As a regular part of their jobs, they travel the length and breadth of the United States helping people make more money from refreshment service. These men point to the *beverage business* as the most obvious answer to the problem of increasing profits from theatre refreshment stands.

It is a logical answer for two reasons: (1) the unquestioned popularity of beverages. The business of "Having a Coke" is an all-American, every-day sort of thing to theatre patrons—something they do where they work, where they play, in their homes, wherever they go. It is natural for them to seek refreshing beverages when they come to the theatre, too. (2) The almost unmatched *profit* to be made from successful merchandising of the beverage service. Of all the items he might offer customers, the concessionaire has no other single item with the profit potential of the quality beverage. Because of low inventory cost . . . rapid turnover . . . and an extremely high ratio of sales price to purchase price . . . beverages can be a veritable "liquid gold mine" at the theatre refreshment stand.

THE SELLWOOD Theatre, Portland, Ore., merchandises three highly popular beverages with this compelling sign on top the popcorn machine.

MERCHANDISING

"Merchandising" is a word with many meanings. To the exhibitor with money on his mind, it may well be the most important word in the dictionary when he applies it to his beverage service. In the interest of finding new ways of making *more money* from the theatre refreshment stand, let's examine some of the different ways of *merchandising the beverage service.*

Merchandising Methods

The first (and most important) element, of course, is *selection.* Everyone remembers with a shudder the days immediately following the second World War, when theatre patrons turned their interest and their dollars to other forms of entertainment. When the motion picture industry swung back to a policy of *quality first* . . . the paying public swung back into line at the boxoffice. Today you readily *spend more money* for a top attraction because you know you'll *make more money* from it.

That principle applies with equal force at the refreshment stand. Your customers have well-formed preferences when it comes to buying beverages . . . and they prefer *quality products.* They look for their favorites whenever they pause to refresh, and it is to your interest to serve what they want. After all, you have only a few minutes at best with each customer who visits your

stand. It is a waste of valuable time to explain to a patron why you don't carry the most popular item, and try to interest him in a substitute. What is even more important: such a policy *may* be a waste of valuable customers, too. People come back again and again if they get what they want. They may look elsewhere if they don't.

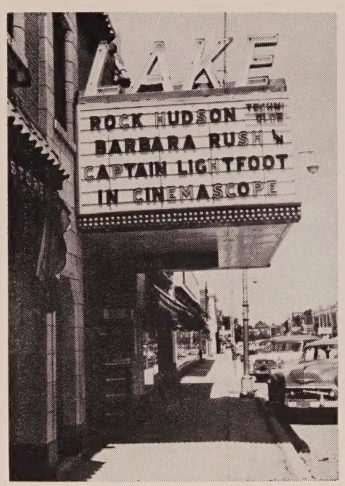
Most Popular Drinks

On the basis of national survey figures, Coca-Cola is far-and-away the most popular beverage sold at the theatre refreshment stand, followed in order by root beer, carbonated fruit drinks, still-water fruit drinks, and milk products. (Hot coffee enjoys growing popularity at cold-weather drive-ins, but has yet to climb into the "featured favorites" list.) Common sense suggests that such proven preference is a good guide to follow when selecting beverages to feature at your counter. Some 85 per cent of all theatres equipped to handle carbonated soft drinks now sell Coca-Cola; root beer is available in one third of the nation's houses; carbonated fruit flavors in roughly 20 per cent.

Service

Once you have selected top-quality products with proven sales-appeal for your stand, the element of *service* assumes major importance. What equipment will you use? Where will it be placed? How can it do the best job of selling?

In these days of increased specialization, there is a dispensing unit to suit almost every given situation, and almost any size operation. The two most popular types from the standpoint of usage are the (1) multiple-drink dispenser; and (2) the cup machine. Others which offer advantages for special situations include



THE LAKE Theatre, Crystal Lake, Ill., promotes its profitable refreshment service outside the house as well as inside, with excellent results obtained.

self-contained units and regular soda fountains, which find some favor in high-volume drive-in theatres and super-size conventional houses.

The multiple-drink dispenser offers the advantage of quality service of three or more beverages from a single, easy-to-operate mechanical unit. A popular combination might feature Coca-Cola, a carbonated orange drink and a still-water orange from the same dispenser. Other combinations are possible, of course, and depend on the popularity of given items with the patrons of your theatre.

The cup machine has a growing place in the scheme of things as a supplemental service because it offers a variety of refreshing beverages . . . operates efficiently and well without the constant attention of stand personnel . . . and does a good job of calling patrons' attention to the beverage service. In addition to regular dispensing units at the stand itself, many exhibitors place cup machines adjacent to the stand, and also in secondary locations throughout the theatre.

Modern dispensing equipment is easy to operate and maintain, and is virtually trouble-free. Equipment should, of course, be kept spotlessly clean, and should be serviced regularly in line with specifications available from the manufacturer.

Placement of beverage dispensing units deserves one more word before we pass on. As a general rule of thumb, the drink department should be close by the popcorn department for maximum results from both. Extra lights (or attractive motion signs) which call attention to the beverage service do even more to pull patrons to this profitable part of your operation.

Details of Service

A growing factor in the success of many concessionaires is the attention paid to *details of service*. For example: people who want *cold drinks* want drinks that are *really cold*. Coca-Cola and other beverages in this category should be served at 40 degrees or below to be properly refreshing. Exhibitors have found that the simple expedient of serving ice in their beverages has upped sales in this department as much as 50 per cent . . . and yet putting ice in the drink is not the proper way of guaranteeing its *coldness*. First of all, the syrup should be pre-chilled before

THE ABC DRIVE-IN, Baden, Pa., illustrates two basic elements of good beverage merchandising: a clean and appealing layout, and attractive, commanding signs to call the attention of film patrons to the profitable products which are merchandised on the convenient premises of this drive-in.

TWO SMART moves toward greater profits from the beverage section are food advertising where customers are buying their beverages, and vice versa; and careful, scheduled checking of the beverage dispensers for proper icing, below 40°F.

going into the dispenser. Then, the dispenser itself should be properly iced (in line with manufacturer's instructions.) When a drink mixing cold syrup and cold carbonated water is drawn from a properly-iced dispenser . . . and served with ice in the cup or glass . . . then the customer gets a real treat in refreshment. He's likely to buy more popcorn and candy . . . and he's likely to come back again!

It almost goes without saying that the attendants who serve your customers will have a great deal to do with the money you make from the beverage department. An alert suggestion to "Have a Coke" with that bag of popcorn accounts for many a sale . . . and makes the customer appreciate the completeness of your service. Also: "ice-cold Coke" sells better than "Coke"; "hot buttered popcorn" better than "popcorn." Attendants should be both *descriptive* and *suggestive* in their sales approach to prospective customers.

Advertising

An integral part of any merchandising plan is the advertising that goes with it. Your beverage service may be advertised in many ways to your customers:

If you regularly run newspaper, radio, and television messages extolling the features of your current attraction, why not also mention your refreshment service? Include plugs for this important part of your operation in the "heralds" you pass out, and in "previews of coming attractions" distributed as hand-bills. Signs outside your theatre . . . adjacent to the ticket booth . . . throughout your lobby . . . might well call thirsty patrons' attention to the beverage department. An increasingly popular way of publicizing your refreshment service is the "intermission trailer," a full-color strip that advertises your feature items and suggests an immediate visit to the stand. These trailers may be had in variety from Armour, The Coca-Cola Company and certain other suppliers free of charge . . . or may be purchased individually from Filmack, National Screen Service and similar commercial producers.

And . . . finally, don't forget the refreshment stand itself. At that spot, customers are in the mood to buy. You have only to steer their selection to reap profitable rewards. A sign that says "Have a Coke" should be beside your popcorn machine, over your candy counter . . . wherever else it will meet the wandering eye. A wide variety of attractive, modern, eye-catching signs is available from The Coca-Cola Company and from other national suppliers. Ask the representative who calls on you for the material to suit your particular set-up.

Large Size Drinks

An item involved in the merchandising of your refreshment service that deserves special attention all to itself is the prevailing trend to "large size" drinks. It would seem to be a mistake to eliminate the smaller size altogether, since this could be interpreted as an effort to "coerce." But where 10, 12, and even 20-ounce cups are offered in competition with smaller regular containers, the larger sizes pull the major share of the business. This, of course, increases both your gallonage and your profit.

Now to the "special promotion" department . . . the "gimmick" section.

TWO HANDSOME and well-lighted cup machines in a secondary location do extra business for the Loew's Theatre, Mt. Vernon, N. Y., at all times.

LARGE MACHINES that are capable of handling two lines of patrons at the same time, below, have proven their ability to increase beverage sales.

Although they push and promote and shove and sell their *pictures* in every way possible, many exhibitors have not yet adopted this basic factor of show business success to the use of their refreshment stand. On the other hand, many have . . . and it is these promotion-minded men who stand as the pioneers of profitable refreshment stand operation. Take a few pages from the book being written across the country on how to make more money from beverage sales in theatres:

The "Gimmick"

—New *action* creates new *reaction*. "Dress up" your refreshment stand to tie-in with the theme of a current attraction . . . or with a holiday . . . or with some local special event . . . and reap new attention from familiar patrons. (Disguise your stand as a Navy ship for "Mister Roberts," or deck it in green for St. Patrick's day and watch interest and profits pick up!)

—Distribute "bumper banners" advertising your drive-in theatre to all patrons who spend a certain amount of money at your refreshment stand. Then, on certain well-advertised nights, admit every car that displays your "bumper banner" *free of charge*. (In the meantime, of course, thousands of cars in your neighborhood advertise your drive-in theatre for you.)

—Distribute "tickets" available from The Coca-Cola Company to prospective patrons throughout your community, inviting them to "Have a Coke" as your guest next time they visit your theatre. This brings them to the refreshment stand, where they almost always make other purchases. (Tickets may be distributed through schools, clubs, check-out counters at near-by stores, as patrons leave your theatre. They create immediate and lasting good will, cost you nothing to distribute, very little to redeem.)

—Scotch-tape a free pass to your theatre on every 30th cup (or 20th or 40th) in your cup machines. Advertise the "free pass" gimmick with special signs near every cup machine, and watch interest mount.

—If you've just installed cup machines, invite every patron to "Have a Coke" free of charge as a get-acquainted offer. Have an attendant actually stand by the machine, give a nickel to each patron, and show him how to operate the machine. (This overcomes natural shyness in some people . . . a fear of trying to work unfamiliar machines for the first time.) Once familiar with your service, and with the means of getting what they want, customers become steady patrons of your cup machines.

—If you feature eight-drink cup machines, try listing the most popular product at the top of *both* sides. Big machines frequently draw two lines of customers instead of one. Why not make sure that all customers have a chance to get what most of them prefer?

—Open your refreshment stand an hour ahead of scheduled Saturday matinees, and advertise the fact to your patrons. Young people will come early to stock up on beverages, candies, etc. in preparation for enjoying the show.

—Offer a "combination ticket" for a stated price, the combination to include

FREE THEATRE SURVEY

To help you make more money from beverage sales in your theatre, The Coca-Cola Company has devised this special "Theatre Survey" which is available to you free of charge.

At your request, highly-trained personnel of the Fountain Sales Department will check your beverage service for "general conditions," "drink analysis," "stock," "service," and other important features. Results will be given to you in confidence . . . and in writing.

Take advantage of this unique opportunity to find out how you're doing in the beverage business . . . and how you can do better. Ask the representative of The Coca-Cola Company who calls on you for the "Theatre Survey" service.

Annual PROFIT ON COCA-COLA - This Theatre

Gross profit per gallon $_____

Annual gallonage _____

Annual gross profit $_____

Coca-Cola — the Most Asked For Soft Drink in the World — is the overwhelming preference of movie goers.

Are you cashing in on this preference for such a profitable product by—

√ Advertising Coke at your refreshment stand?
√ Promoting Coke with other items?
√ Merchandising with a dispenser?
√ Sampling with tickets?
√ Running intermission trailers?

Thank You! We appreciate your business and your interest in our Company and its product. And we welcome the opportunity to be of further assistance to you in the future.

THE COCA-COLA COMPANY
FOUNTAIN SALES DEPARTMENT

"COCA-COLA" AND "COKE" ARE THE REGISTERED TRADE MARKS WHICH DISTINGUISH THE PRODUCT OF THE COCA-COLA COMPANY.

THEATRE SURVEY OF DRINK DISPENSING EQUIPMENT

THEATRE NAME _____
STREET _____
CITY AND STATE _____
THEATRE MANAGER _____
AFFILIATED WITH _____

Mr. _____

YOUR PARTICULAR ATTENTION IS CALLED TO THE FOLLOWING CONDITIONS FOUND AT TIME OF SURVEY:

_____
_____
_____

The Coca-Cola Company • FOUNTAIN SALES DEPARTMENT

DATE _____ TIME OF SURVEY _____
SERVICE RENDERED BY _____

Manually Operated Equipment

GENERAL CONDITIONS (YES / NO)

1. Is general appearance satisfactory? ☐ ☐
2. Are all units operating? ☐ ☐
3. If not operating state number, for how long, and reason_____
4. Are cooler compartments clean and operating properly? ☐ ☐
5. Are syrup pressure tanks properly identified? ☐ ☐
6. Are dispenser interiors clean? (Should be cleaned weekly). ☐ ☐
7. Are dispenser nozzles clean? (Should be cleaned daily). ☐ ☐
8. Are dispensers properly iced? ☐ ☐
9. Is condition of gas drum regulator gauge satisfactory? ☐ ☐
10. Is carbonator operating satisfactorily? ☐ ☐
11. Is gas supply, electricity, and water checked well in advance of opening? ☐ ☐
12. Does manager feel present equipment is adequate for peak business at intermission breaks? ☐ ☐
13. If not, what are his suggestions?
_____
14. Are drinks merchandised with point-of-sale material? ☐ ☐
15. Are signs clean and in good condition? ☐ ☐

DRINK ANALYSIS (YES / NO)

16. Taste of Coca-Cola? ☐ Good ☐ Fair ☐ Poor
17. Temperature of Coca-Cola _____ degrees (Should be below 40°)
18. Was amount of syrup in drink ☐ Proper ☐ Light ☐ Heavy (Proportion should be 1 full ounce to 5 ounces of carbonated water
19. Is chipped ice used in drink? ☐ ☐ (Proportion of 1 ounce to each 6 ounces of liquid is recommended)
20. Estimated 7-day supply of Coca-Cola syrup_____ gallons
21. Coca-Cola syrup on hand _____Gallons dated_____ _____Gallons dated_____
22. Buying Right? ☐ ☐ (For a quality drink Coca-Cola syrup should be purchased in the quantity that will fit your 7-day requirements)
23. Is syrup stored and rotated properly? ☐ ☐ (Should be in cool place and rotated, using oldest dated first)
24. Is syrup pre-cooled? ☐ ☐ (Pre-cooling syrup improves taste of finished drink and reduces load on refrigeration equipment)
25. Sizes of cups used_____

Automatic Vending Equipment

GENERAL CONDITIONS (YES / NO)

1. How many cup machines in operation_____
2. If not operating, how long out of service?_____
3. Is appearance of exterior of all machines satisfactory? ☐ ☐
4. Is condition of all cup stations satisfactory? ☐ ☐
5. Is condition of interior of machines satisfactory (if seen)? ☐ ☐
6. Is condition of all used cup receptacles satisfactory? ☐ ☐
7. Are all machines refrigerated in advance of opening? ☐ ☐
8. Is point-of-sale merchandising material used? ☐ ☐
9. Is it clean and in good condition? ☐ ☐

DRINK ANALYSIS (YES / NO)

10. Taste of Coca-Cola
(a) ☐ Good ☐ Fair ☐ Poor
(b) ☐ Good ☐ Fair ☐ Poor
(c) ☐ Good ☐ Fair ☐ Poor
11. Carbonation of Coca-Cola
(a) ☐ Good ☐ Fair ☐ Poor
(b) ☐ Good ☐ Fair ☐ Poor
(c) ☐ Good ☐ Fair ☐ Poor
12. Temperature of Coca-Cola
(a) _____ degrees
(b) _____ degrees
(c) _____ degrees
(Should be below 40°)
13. Was amount of syrup in drink?
(a) ☐ Proper ☐ Light ☐ Heavy
(b) ☐ Proper ☐ Light ☐ Heavy
(c) ☐ Proper ☐ Light ☐ Heavy
(Proportion should be 1 full ounce to 5 ounces of carbonated water)

REMARKS:
_____
_____
_____
_____
_____

A GOOD example of seasonal refreshment stand decoration is seen in the winter holiday display, left, to reinterest all the old patrons.

theatre, popcorn or candy bar, and beverage. This offer should appeal especially to college students and others on tight budgets who like to take dates to the theatre, but are worried about "treating."

—Make "combination ticket" described above available for birthday parties and children's theatre outings . . . and advertise the combination in school papers and on "heralds" distributed throughout community.

—Hand out attractive menus to cars entering your drive-in, and make certain that items available at your snack stand are appetizingly described. Since almost everyone wants a beverage at some time during the show, it pays to feature beverage items in this type of special advertising.

This list, of course, is only a starter. The possibilities in promotion of the theatre beverage service are limitless: bounded on the south by the will-to-work of the individual operator, and on the north by his enthusiasm and imagination.

CONCLUSION

If you (1) feature only quality drinks with national reputation and proven preference; (2) use clean, efficient equipment adequate to handle the demands of your patronage; (3) serve beverages the way customers like them; (4) advertise your beverage service; (5) use special promotions and "gimmicks" to create interest and attention . . . the odds say you'll do big business in your beverage department and make four- and five-figure profits from it. Interested?

Note the attention-attracting "Free Tickets" sign atop the candy display in the Malco Theatre, Memphis. Such offers, and other special gimmicks, draw customers to the highly profitable refreshment stand, increase the operator's profit, and create new interest for patrons. It is important for theatremen to give some time and effort to these concession stand promotions in order to get the maximum amount of revenue out of the extra profits activities. The number of possibilities are as numerous and varied as for the promotion of motion pictures. The effort will show up in more sales.

Franks Mean Sales

A Review of How to Merchandise and Increase the Sales of Frankfurters at Outdoor Theatre Concession Stands

This is a story about man biting "dog" —multiplied more than six billion, three hundred million times a year. The "canine" in this case is the historically misnamed "hot dog," more accurately known as frankfurter or weiner, and while the impressive consumption of the hot dog by man may not make news, it is playing an increasingly important tune on the refreshment stand cash registers of the nation's drive-in theatres.

Hot Dog Consumption

By the time Labor Day rolls around, it is confidently estimated that the U. S. population will have downed 2,606,000,000 frankfurters since Memorial Day. Add nearly another billion for "off-season" consumption, and you would have a chain of sausages some 498,000 miles in length —or enough to wrap around the earth's circumference nearly 20 times.

In 1952—the same year that the frankfurter was celebrating its hundredth anniversary as one of the handiest and tastiest of meat morsels — there were some 3,600 drive-in theatres in the U. S. They were enjoying a booming business as increasing numbers of Americans discovered the pleasures of combining two national pastimes—a movie and a car ride.

The growth of the drive-in theatre business has been one of the marvels of an era dominated by home television. In 1946, there were a mere 100 drive-ins.

BRIEF: ***One of the most popular snack items in the United States is the frankfurter . . . or hot dog as it is often called . . . Some of the reasons for the tremendous appeal are that franks are simple to prepare and serve . . . and of course . . . have a taste which pleases almost everyone . . . It should come as no surprise . . . therefore . . . that the frankfurter is one of the most widely accepted products sold at drive-in theatres . . . This article . . . prepared by Armour and Company . . . offers the reader an interesting review of how to merchandise franks . . . including data on special trailers which may be used . . . It also includes some tips on the different types of frankfurters available . . . the ingredients used . . . and some actual case histories of drive-in operators' experiences selling this item . . . There is also an interesting section devoted to a short history of the frankfurter . . . its origins . . . and how it was named.***

Now, less than a decade later, there are more than 40 times that number!

Pioneer Film Promotion

It was in 1952 that Armour and Company, long one of the nation's leading producers of frankfurters, pioneered a film trailer promotion that dramatically linked the hot dog with the drive-in theatre to their mutual benefit.

The Armour contribution was something new on the big outdoor screens. Lively, full color, one-minute shorts were announcing intermission time and reminding viewers that it was time to stretch their legs and perk up with a cooling drink, a box of popcorn, and a delicious, sizzling Armour star frank on a bun.

The one-minute shorts featured catchy jingles sung by Bing Crosby's "Starlighters" of radio fame. Typical jingle:

So step up—buy your Armour Franks
And give the kids permission
To eat the finest hot dogs made—
Enjoy this intermission!

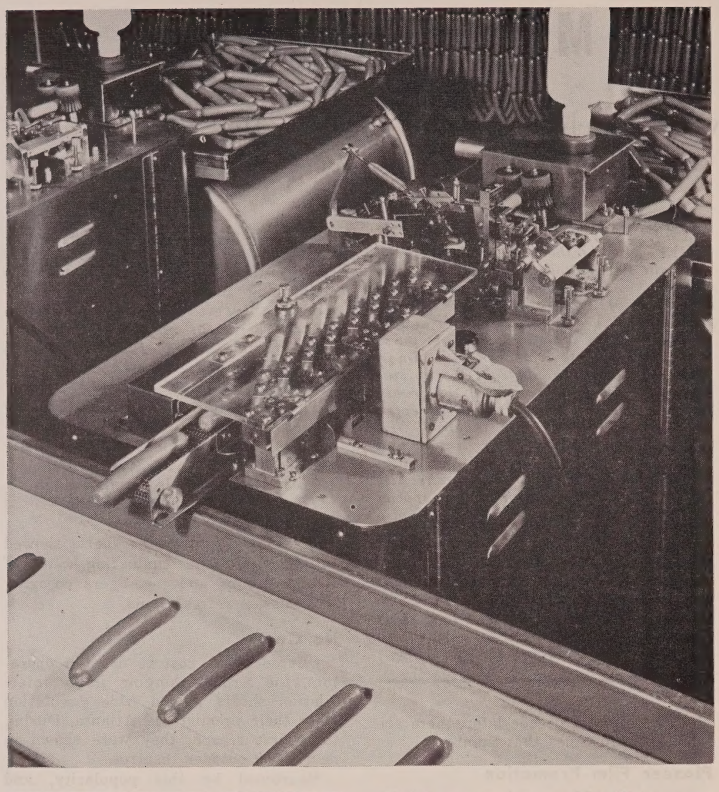
The movie part of the shorts showed full color, appetite stimulating scenes of family groups and teen-agers enjoying intermission refreshments.

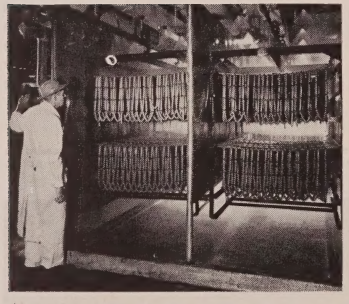
No Cost

Offered at no cost to drive-in operators, the Armour singing jingle intermission shorts gained wide circulation after their premiere in Atlanta. During their first season, they were shown in nearly 600 outdoor theatres.

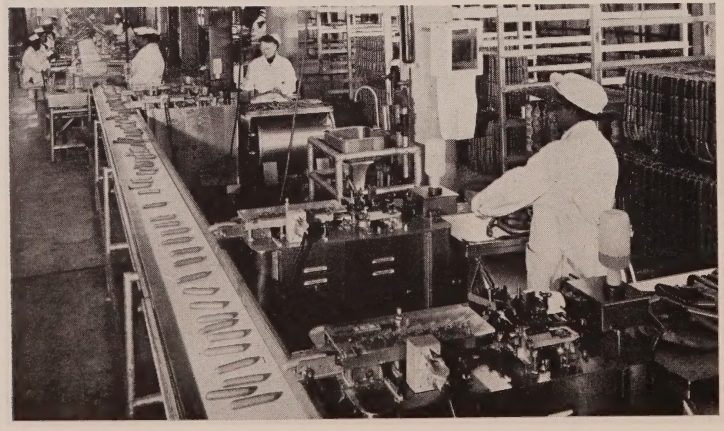
Heartened by this popularity, and reinforced by reports from operators around the country attesting to the cash ringing ability of the films, the meat packing firm added eight new trailers to its repertoire the following season.

A SCREEN'S eye view of the hundreds of cars that assemble in a typical drive-in theatre. During intermission the viewers crowd the refreshment stand to buy franks and other food and drink. By using special intermission films, such as those distributed by Armour, it is possible to increase sales.





TODAY the manufacture of frankfurters is an example of modern production line efficiency. Seen (above) is a close up of an automatic frankfurter peeler in the new sausage kitchen at the Armour Chicago plant. Linked with skins on, they move through the machine which removes the skins and separates the franks, and drops them on moving belt for packaging. Seen (left) is the water shower that washes the already smoked and cooked franks before they are packaged. The frankfurter packaging line (below) is an example of speed, efficiency and sparkling cleanliness. In foreground, skinless franks are automatically peeled of the casings used in their processing and ejected onto moving belt. They are then weighed and packed in the rear. The demand for frankfurters is so great that it requires such elaborate facilities to keep up.



With drive-in patrons spending an average of 20 cents each on refreshments (compared with the six cents that indoor moviegoers average), the effect of the new intermission shorts was closely watched.

Increased Business

The concession owner of a large Chicago drive-in noted a nine per cent increase in total business after using the intermission trailers only a short time. Sales of popcorn and cold drinks, as well as hot dogs, accounted for the largest share of the spurt.

The first night a Missouri drive-in showed one of the shorts, hot dog sales shot up 25 per cent. Total concession business for the season was a third over the preceding year.

One of the most dramatic examples, however, of the way the Armour films convert appetite appeal into refreshment stand business occurred at the Sandy Drive-In, Portland, Ore. Based on its average sales, the theatre ordered a four-day supply of franks. That night the intermission films were shown for the first time.

Charles Madden, general foreman of the Armour plant at Portland, happened to be in the audience with his family. During the intermission he visited the refreshment stand to buy six hot dogs. Madden chatted briefly with the concession manager, mentioned that he worked for Armour and asked how business was.

He received his answer a short while later after returning to his car to watch the show. A call came over the loudspeakers asking the "gentleman from Armour" to please report to the refreshment stand in a hurry.

A surprised Madden did accordingly and received an "emergency" order for 72 additional pounds of franks!

Origin

Somewhat more than a century ago, according to the American Meat Institute, a butcher in Frankfurt, Germany, gazed idly at his pet dog—a long, low-slung dachshund—and was inspired to develop the beef and pork combination, which, when seasoned, stuffed into casings, linked and smoked, has evolved into an American trade mark.

Somewhere along the line the frankfurter emigrated to the U. S., where nothing much startling happened to it until 1893. That was when a man named Anton Ludwig Feutchwanger built a thriving business of his "red hot" grilled sausages to crowds attending the Chicago World's Fair. Feuchtwanger provided his customers with a white cotton glove so they would not burn or soil their fingers. Eventually, he dispensed with the gloves, happily deciding to place the hot sausages between the halves of a roll instead.

In 1900, a New York cartoonist named T. A. Dorgan attended a football game in the Polo Grounds where vendors were selling frankfurters from portable hot-water containers.

In a widely circulated cartoon, Dorgan showed the hot sausages with the words "bow wow" as a caption. One version of the story states that Dorgan didn't

know how to spell "dachshund," and substituted the now famous "hot dog."

Despite their widespread popularity, the "inside story" of the frankfurter is unknown to many people, and there are some misunderstandings about their make-up.

Ingredients

Basically, a good quality frankfurter combines the best in appetizing appearance and aroma with high digestibility and nutritional qualities at an economy price. Although formulas may vary somewhat, the frank is a combination of nutritious beef and pork. In some sections of the country there is considerable demand for an all-beef kosher-style frank. Spices and flavorings, too, vary. Some people like garlic in their franks. Others prefer a mild flavor.

These local consumer preferences are catered to by sausage manufacturers. Armour, for example, operates 90 sausage kitchens across the country which adhere to rigid quality standards, but which serve local tastes.

Even color is a factor. Some localities prefer a bright red frank, and harmless coloring is added in accordance with federal and local regulations. In other areas, the natural smoked appearance of the frank is desired.

Consumer preferences change. It wasn't too long ago that nearly all franks were stuffed in hog or sheep casings. Now, most franks are skinless. To make skinless franks, however, requires the use of cellophane-like casings that are peeled off after the meat has been processed.

A surprising number of people don't realize that the frankfurter is fully-cooked and ready to eat just as it comes from the sausage kitchen. Heating, however, whether by placing in hot water, roasting, or grilling brings out the full flavor.

Basic Snack at Drive-ins

To the drive-in operator, the frankfurter represents the basic snack. For a hot sandwich it is unparalleled in speed and ease of preparation and serving. The bun, along with the napkin or sheet of waxed paper, provides the perfect serving medium.

Heating the franks may be as simple as placing them in a container of hot water, or as elaborate as the latest infra-red grills that can cook up to 60 hot dogs every 8-12 minutes. From a merchandising standpoint, the sizzling franks in public view can be the feature attraction of the refreshment stand.

The frankfurter is blessed with a versatility enjoyed by few other foods. Those concession operators wanting something "special" can serve fritter franks, made by dipping the frank in a batter, frying in deep fat, and serving on a skewer. Other variations include dipping in barbecue sauce, or serving with chili con carne.

Simple Cost Control

Portion and cost control are easy to figure with franks. The standard size is 10 to the pound, although they can be obtained in sizes ranging from cocktail midgets up to foot-long novelties. Be sure to figure an average serving of one teaspoonful of ketchup, mustard and relish in with the food cost.

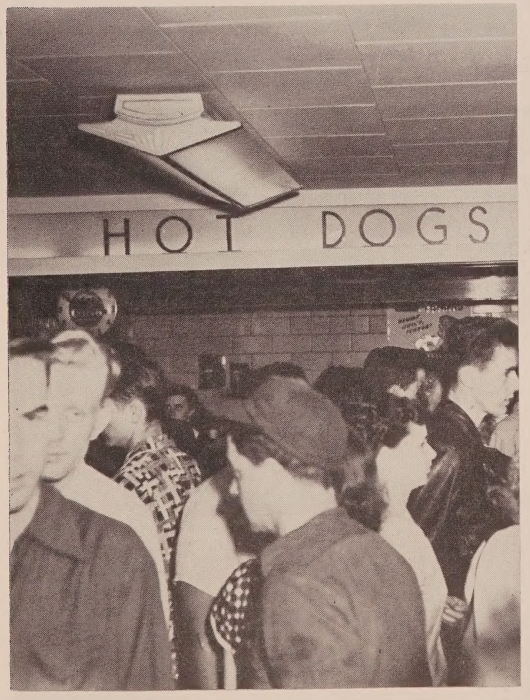
One word of caution about franks. As any other perishable food, they should be kept refrigerated until ready for use. Best holding temperature is between 38-40 degrees.

CONCLUSION

The use of good quality franks, backed by a brand name the public knows and has confidence in, is the best and simplest merchandising technique we know of for building a profitable drive-in refreshment business.

And the nearly 15,000 bookings we've had on our intermission trailers are impressive evidence that these singing jingles are doing an outstanding job of getting drive-in patrons out of their cars and into the refreshment stands.

Of the numerous letters we've received from drive-in operators, the following from Wisconsin is short and typical: "It is requested that your intermission trailers be sent to us for showing at our drive-in theatre. We have used your trailers for the past two seasons and the results have been tremendous."



CROWDS LIKE this one (above) jam refreshment stands during intermission at the average drive-in theatre. Drive-in operators report that the use of such things as the Armour one-minute singing jingle films help to increase business. These films on drive-in screens (right) keep patrons entertained.

Popcorn Pointers

A Discussion of Popcorn, Including Some of the Methods of Making and Selling It So As to Add to Extra Profits

Any exhibitor who has found himself using black ink instead of red at the end of a particularly bad week, as the result of his popcorn sales, is fully aware of the value of this product. Although the mention of popcorn may bring smiles, and some very tired quips, today it has achieved a place in the industry that is far from a laughing matter.

There are very few theatres in operation, either conventional or outdoor, which can afford to ignore the fact that with the proper equipment, and sales approach popcorn can be a lucrative source of income.

How To Pop Corn

Popcorn is a food, and the same pride and care should be taken in the popping of corn that a good cook would take in preparing a meal—beginning with the selection of the ingredients, then the combining of the ingredients in the proper proportion, and finally the actual cooking of the materials. However, it takes no special knack to pop good corn. Beginners should be able to operate a popcorn machine and turn out delicious product after mastering a few simple rules.

BRIEF: ***Within the past few years popcorn and motion picture theatres have become almost synonymous . . . Despite the fact that comedians can not resist the temptation of using this partnership as the butt of jokes . . . the revenue derived from the sale of popcorn has become a factor which in some cases has meant the difference between showing a profit or a loss.***

This article will give the theatreman some valuable information as to the proper preparing and storing of popcorn . . . It also describes in pictures and words the best machines that are on the market and how to maintain these popcorn machines so as to get the most out of them.

Any cook will tell you it's important to select ingredients of high quality. This applies to popcorn as well as beef stew. There are many types and varieties of popcorn, some developed for one purpose, some for another. Some of it is just low-grade corn offered for a price to one-time buyers. Steer clear of this "price" corn. Choose instead, a brand well-known for consistent high quality from a popcorn processor who is in the popcorn business year after year.

The other principle ingredient is popping oil. There are two kinds of oil to use for best results. One is liquid popping oil, and the other is coconut oil. Some prefer the liquid oil because it is always ready for instant use without preheating. Others prefer coconut oil which liquifies at 75 degrees F. Whichever suits you best, they are both good products and either will give excellent results.

A ratio of one part oil to three parts corn gives maximum popping volume, and any less oil will seriously affect the results. If your machine pops 18 ounces of raw corn per popping, for example, use six liquid ounces of oil. Be careful and accurate in measuring the corn and oil, because it takes a uniform product to build a repeat business. Find a convenient container that holds 18 ounces of raw corn and fill it level full from the bag or bin each popping. If your machine is equipped with an adjustable metering seasoning pump, be sure the pump is set to deliver the correct amount of oil. Otherwise, use an ordinary kitchen measuring cup.

Measure out 18 ounces of raw corn, and prepare two teaspoonsful of powdered seasoning, such as Savorol made by Blevins Popcorn Company, or salt. Using the seasoning pump, or your measuring cup, deliver six liquid ounces of oil into the kettle and switch on the kettle heat, agitator motor, and heating elements under the warmer. The best way to tell when your kettle is at popping temperature is to drop five or six test grains of popcorn in with the oil. When these test grains pop, the kettle is ready for the full charge.

After dumping the corn in, you will hear the corn begin to pop within approximately a minute. In approximately one and a half minutes the entire 18 ounces of corn will have popped. As soon as the popping ceases, dump the popped corn to the warmer, return the kettle to popping position, and refill with the same amount of oil. This time the oil will reach popping temperature more quickly. Dump another 18 ounces of corn in and proceed until you have popped as much corn as you need immediately.

If you are using a machine equipped with an exhaust filtering system it will be in operation during the popping process. This very valuable accessory pulls the fumes of cooking out of the popper case, filters out harmful grease vapors, and releases the pleasing aroma of the popping corn.

As time permits, gently rake the popped corn across the screen in the

THE PROPER EQUIPMENT, an attractive intelligent attendant, and the finest ingredients go into the recipe that will produce increased popcorn sales, and customers who will come back for more.

tray to remove the unpopped kernels. But be careful not to break up the popped kernels with rough handling, for it takes more of these broken bits to fill a box or bag, and they usually wind up on the floor. If the corn is not sold right away, agitate it occasionally, so that all of it has a chance to come in contact with the warming pan.

Supply On Hand

Whenever possible pop corn only as you need it, because the aroma and animation of popping corn is your best salesman. There are times, however, when it is desirable to have some corn popped and packaged ahead for rush periods. Here again, you should manage to keep popping when the rush develops, and every customer will think he is getting a box hot and fresh from the kettle.

When popping the last batch of a series, in order to prevent a build-up of excessive heat which leads to carbonization and scorched grains, it is best to switch off the kettle heat when the popping is one half or three-quarters complete. There is enough accumulated heat to complete the popping and the kettle does not get too hot.

When you have popped all the corn you need temporarily, switch off the agitator motor, and wipe off any excess oil on the outside of the kettle. This will simplify maintenance problems. If the kettle is to be idle for a while, it is best to put a charge of oil in after the last batch. This will keep the bottom of the kettle from charring in the case of some types of machines. This practice is not necessary when closing down for the day, because the smart operator thoroughly cleans his kettle and his machine while it is still hot, and before oil has had a chance to accumulate and char.

THE ATTENDANTS at the stand in the Esquire, Enid, Okla., (above) have prepared a batch of popcorn just before the show breaks in order to have a fresh supply on hand. Self-scooping bags (below) make it easier and quicker to give service and they lie flat when discarded.

STORING POPCORN

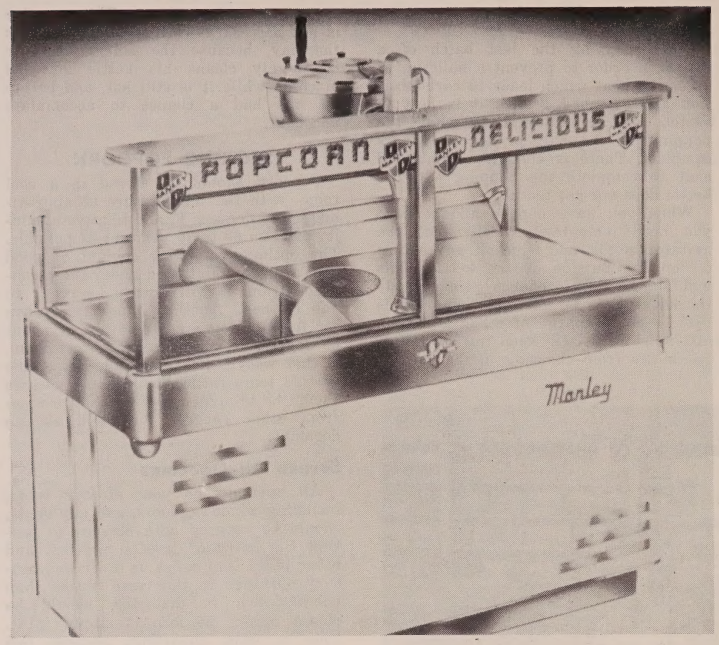
Popcorn should be stored in a cool room, with the temperature at approximately 65 degrees F. and relative humidity of from 65 to 70 per cent, if possible. The optimum moisture content of good corn will be maintained under these conditions, and it will always be ready to pop its best. Another important reason for maintaining a temperature of about 65 degrees in the popcorn storage room, is that weevils are not ordinarily active at this temperature, and if any weevils should be brought into the storage room from other sources they will remain dormant.

Screen All Openings

All openings on your storage room, including windows, doors, and any vents, should be covered with screens to prevent the entry of insects, rodents, and other pests. Any holes or other unnecessary openings in the room larger than one-half-inch in diameter, should be closed before popcorn is stored in it. This is very important, because one rodent can ruin much valuable popcorn and other supplies. Even though you feel that your storage room is rodent-proof, it is still wise to use some type of rodenticide that is non-toxic to humans—ask your local pest-control firm to recommend something. Also bear in mind that you are subject to sanitary inspections by your local health department, and any indications of rodents in your storage room could bring condemnation of your stocks of popcorn and supplies.

The bags of popcorn should be stacked on pallets on the floor of your storage room with an aisle-way at least 18 inches wide on all four sides of the stack. The aisle-way will permit you to clean the floors against the wall, keep the corners clean, and sweep down the walls and ceilings at these points.

Any dust, trash, refuse, cobwebs, etc., collected on the floor, walls, or ceiling are breeding places for weevils, which can get into your storage room from many sources. Frequently, box cars and motor trucks are infested with weevils or weevil eggs from previous cargoes, and these can be carried into your storage room on other merchandise. Every



AN IDEAL POPCORN machine for drive-ins and large indoor houses is the Manley Super Stadium.

effort must be made to prevent these eggs from hatching and any weevils developing.

Spray Monthly

During the warm months, beginning the first of May, and continuing through October, you should spray thoroughly all walls, ceilings, and floors of your storage room at least once a month, giving particular attention to corners and the base of walls. The spray used should be of a type that is non-toxic to humans—a pyrenone spray (either the oil base or water soluble type) in sufficient concentrations to kill all stages of insect life on contact is recommended.

As often as possible try to clear the entire storage room, remove the pallets, and give everything a thorough cleaning.

ONE OF THE MOST popular machines in theatre concession stands is Cretors Olympic Model.

By all means, always use your old stock of popcorn before putting new stock in front of it, even though popcorn packed in moisture-proof, paper-lined bags will keep indefinitely.

Sweep Up Loose Corn

If you use only a part of a bag of corn at a time, be certain that any loose corn spilled on the floor of the storage room is promptly removed and the sack is rolled down tight to prevent prolonged exposure to outside air, which might change the moisture content of the corn and affect its popping volume. When using popcorn in small quantities at infrequent intervals, it is far better to have a suitable metal storage bin which will hold two or more bags of corn. This bin should be equipped with a draw-off at the bottom, so that the oldest corn is used first. Many concessionaires use these bins right at the point of popping. In this way they not only protect their corn from any infestation or moisture changes, but also impress their customers with the sanitary method of operation.

If you store a large number of bags of popcorn for long periods of time in your storage room, it is important to give this corn a mass fumigation at the beginning of the warm season, using a fumigant with high penetration qualities, such as Methyl Bromide. This fumigation must be handled by an experienced and licensed person, and can be performed only in the storage room since mass fumigation is not effective if the room is not reasonably gas-tight. Such a fumigation, however, is not generally necessary unless the corn has been in storage for a long time and during the winter months.

Proper storage is the best insurance you can provide to protect yourself from loss of concession profits due to damaged and unusable popcorn. In fact, you cannot afford to be without it.

POPCORN MACHINE MAINTENANCE

The way your popcorn machine is cared for directly affects both the quality and the quantity of your popped corn. It also creates a favorable or unfavorable impression on your customers and prospects, and thereby has a direct effect on business. Consequently, it is extremely important to keep your machine clean and in first class order. The instructions that follow will help you or your operator to do this. There are several styles and makes of popcorn machines, but the instructions for maintaining one popcorn machine apply in general to all.

Instructions

To begin with, keep both the outside and inside of the cabinet of your machine spotlessly clean and polished. This is a simple enough task if it it done every day and not postponed. The operator should make it a habit to "catch up" spots occasionally during the day as the time permits, especially in the corners and other areas where oil and salt collect.

BUTTERED POPCORN is a fairly new development that is proving itself popular with the patrons, and another source for extra profits.

For the chromium and stainless steel portions of your machine, firms such as Blevins Popcorn Company, recommend Spanish Whiting for scouring and polishing, because it is a very fine quality abrasive, and will not scar. Spanish Whiting is safe to use on glass also. However, do not use it on painted surfaces or plastic. If you have an excess of grease on the glass or metal parts, use a grease solvent on a rag to remove.

For cleaning Plexiglas and the plastic parts of your machine, wash with plenty of soap and water using the bare hands and fingers to locate and dislodge any caked dirt or foreign matter. A soft cloth, sponge, or chamois may be used, but only as a means of carrying the water to the plastic. Dry with a clean damp chamois. Rubbing with a dry cloth builds up an electro-static charge on the plastic that attracts lint and dust particles from the air. Wiping with a damp chamois will dissipate this charge and remove the dust. Do not use gasoline, alcohol, carbon tetrachloride, lacquer thinner, or any of the various window cleaning fluids on plastic, as they will soften it and cause "crazing" (formation of tiny vein-like cracks). After removing the dirt and grease, the plastic should then be waxed with a good grade of commercial wax. This should be applied in a thin even coat and brought to a high polish with a soft, dry cloth, such as flannel.

Keep a cloth handy, and after popping each kettleful of corn wipe off any oil on the edges, lips, and sides of the kettle, the top of the lid, and any that may have spattered on the glass. It is important to form the habit of doing this immediately after each popping, because if allowed to remain the heat of the kettle will cause the oil to scorch and harden to such an extent that steel wool and char-removing compounds will be necessary.

After the close of business every day, wipe the entire machine, especially the inside of the kettle and the underside of the lid, to remove the accumulations of the day. If allowed to remain, the oil will char, and, as mentioned before, require much greater cleaning effort. Even after the most determined efforts, however, this char does occasionally accumulate. When this happens it is very important to remove it, because an accumulation of char often acts as insulation, preventing proper heat from reaching the raw corn. When this happens you are likely to get a much lower popping volume, and an inferior-tasting product. For this reason, it is important to keep the inside of the kettle clean.

In the event the inside of the kettle does become charred, you can remove this black residue with a good char removing compound. First, remove all grease and gummy film with a good cleaner and a spatula or knife. Then pour two cups of water in your kettle and add one teaspoonful of the char removing compound. Switch the kettle heat on and let the water simmer for a few minutes. Empty this solution and scour the kettle thoroughly. Rinse. Since this cleaning process may remove all traces of oil from the kettle, oxidation may occur between the cleaning and the next popping. To prevent this, apply a film of neutral oil to the cleaned parts.

About once every three months put a few drops of light oil in the oiling places provided on the agitator motor of your machine. Use high-grade SAE 20 motor oil for this purpose. Every three months, or oftener if the manufacturer of your machine recommends, remove the gear box cover and check the oil level. Be sure to familiarize yourself with the manufacturer's operating and maintenance instructions, and commit the lubrication points to memory.

Each week remove the waste corn and waste corn drawer, and clean thoroughly. Also clean the housing in which the waste corn dresser slides. Once a week remove the raw corn drawer and clean thoroughly.

Occasionally check to make sure the heating elements in the bottom of your kettle are operating properly. In most machines the kettle elements are made of two units—one approximately 1500 watts and the other of approximately 1000 watt capacity. Sometimes one or the other of these units will burn out without the knowledge of the operator. When this happens the raw corn gets a slow heat, and by the time popping temperature is reached, the corn has dried out considerably, and reduced moisture content makes the popped kernels smaller. And, as you know, this also makes tough husky corn. Therefore, when this occurs, be sure that it isn't a case of low heat caused by a burned-out element before blaming the popcorn.

It is also extremely important to make sure that the power line feeding your machine has not been loaded with lights and other appliances which will rob your kettle of the full power it needs, and result in low heat. Many firms recommend a No. 10 or larger feed wire leading from the power panel direct to the popcorn machine with no other appliances or lights fed from this line.

Some manufacturers have popcorn machines with exhaust filtering systems, which filter out the harmful vapors and greasy fumes that result from popping. Occasionally, depending on how much the machine is operated, remove the metal filter from its holder and immerse

in a liquid cleaner for a few minutes, then churn up and down to remove the oil collected there. Shake well, replace in machine, and switch on exhaust fan for a few minutes to completely dry out the solvent remaining in the filter. Never allow the filter to become clogged with oil, since this will render it inoperative.

Once every few months apply a few drops of light oil to the hinges of the machine and into the ball bearings of the casters. This will make the machine roll more easily and prevent excessive wear.

BUTTERED POPCORN

The addition of melted butter to fresh popcorn is a combination which appeals to many theatre patrons, and has proven to be extremely profitable in many situations. Although it is a fairly recent innovation, the combination of fresh, sweet, butter with popcorn makes for a product that is hard to beat as to flavor, and nutritional value. There are a number of good butter dispensers on the market, and some companies have developed entire merchandising plans centered around the sale of buttered copcorn.

A definition of buttered popcorn could well be the application of 100 per cent pure butter to fresh, hot, popcorn at the time of sale. This delicious product sells at 25 cents in most areas of the country, with three servings of butter. In a few areas buttered popcorn is sold at 20 cents, with two servings of butter.

To be successful buttered popcorn must be presented with the proper equipment, it must be displayed and promoted, and it must be served properly.

Presented correctly, buttered popcorn at 20 cents or 25 cents, will increase theatre popcorn sales and profits anywhere from 40 to 90 per cent, according to reliable information.

Dispenser

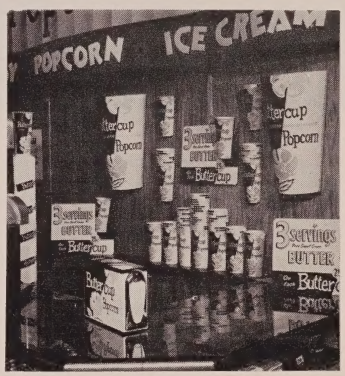
With most butter dispensers, the butter is discharged electrically in an accurately measured amount when the vending attendant touches the operating bar. This makes for uniform quality and cuts down waste. In a conventional theatre it is suggested that the dispenser should be put on the counter right next to the popcorn machine, or warmer. If the candy case happens to be the section of the counter next to the machine or warmer, it will not harm the counter to place the dispenser on top of it. Some managers prefer to place an asbestos sheet underneath, but it is not absolutely necessary.

THE BUTTER dispensers should be placed so they face customers as they enter theatre.

Since most butter dispensers are fairly small in size, it is easy to place them. Whenever possible it should face the entrance. The dispenser should never be placed on a back counter or at any distance from the popcorn machine or warmer. Such placement makes it inconvenient for the vending attendants, and they won't be able to do as good a selling job as they are capable of performing.

Display

Display is very important in selling buttered popcorn. The cups themselves make excellent displays when tacked or stapled to back walls, stacked on counters or hung overhead, if they are colorful and attractive in design. It is just as important to keep up the displays as it is to have good displays at the introduction of buttered popcorn, so the displays should be continually refreshed.



DISPLAY IS very important in selling buttered popcorn, and cups may act as display material.

The sales person should be trained to ask each popcorn customer if he or she would wish it with butter. If the customer should reply that they are afraid it would be messy, they should be reminded that napkins are served. These napkins should always be on hand, and if possible keep some in sight so that the prospective customer can help himself if he wishes. The psychology of many patrons is such that if they have to ask for anything, they feel conspicuous and will not do anything, or buy anything which will cause them to be noticed.

The importance of serving a good product can not be stressed too much. This means fresh, hot popcorn, well salted, and only fresh, pure 100 per cent sweet cream butter (92 or 93 score butter with a low salt content).

As many customers prefer extra salt on buttered popcorn, it is suggested that large salt shaker be kept next to the dispenser so that those who so desire may be able to help themselves to extra salt.

In serving buttered popcorn, the entire cup should be scooped full of popcorn and then three servings of butter put on top of the corn. Because of the pressure pump on many dispensers, this butter will be sent all the way to bottom, through the corn, so that all of the corn is buttered.

THE STAND at the National, Milwaukee, is well prepared to meet popcorn needs of its patrons.

The dispenser must be cleaned thoroughly every night to make sure that it remains in perfect working order, and also to prevent serving an inferior product although only the finest ingredients are used.

Drive-Ins

Because of the speed with which most butter dispensers operate, it is possible to use buttered popcorn in drive-ins which demand optimum output during the peak hours.

Display is even more important in a drive-in than it is in a conventional theatre. This is because there is less time for the vending attendant to do any suggestive selling. Furthermore, in a drive-in displays can be more ambitious than they can be in a conventional house. Particularly at the introduction of buttered popcorn in an outdoor theatre, it is important to even risk over display rather than under display. It has also proven to be a good plan to use the loud speaker system to personally introduce buttered popcorn.

In a cafeteria style drive-in vending counter, the buttered popcorn is handled in a similar fashion to the beverages. In other words, the attendant behind the counter makes up just enough to stay ahead of the line as its moves through.

In a unit style operation, the corn is filled into as many cups as there is warmer space. Then as the vending attendant sells the popcorn he applies the butter.

●

ACKNOWLEDGMENT

The editors wish to express their appreciation to the Blevins Popcorn Company, Nashville, Tenn., and Supurdisplay Division, Milwakuee, Wis., for supplying much of the information used in this article.

Fact:

Berlo now America's largest purveyor of refreshments for drive-ins.

Reason:

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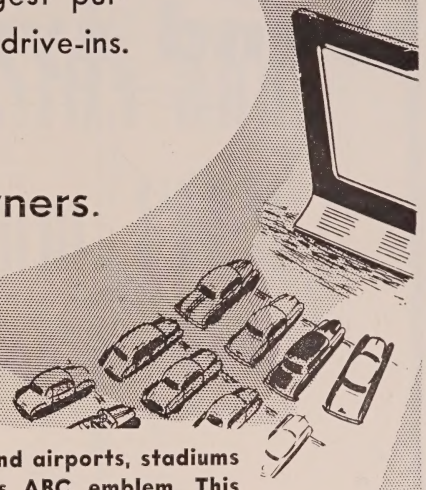

At more and more outdoor theatres — and airports, stadiums and race tracks, too — you see Berlo's ABC emblem. This growth stems from an ability to deliver profits. Why not put this ability to work for you *now*?

A. NEW IDEAS! Berlo's vast experience and continual growth brings new ideas to your concession.

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C. STOCK AND CASH CONTROLS! Berlo's careful control of stock and cash leaves no margin for error.

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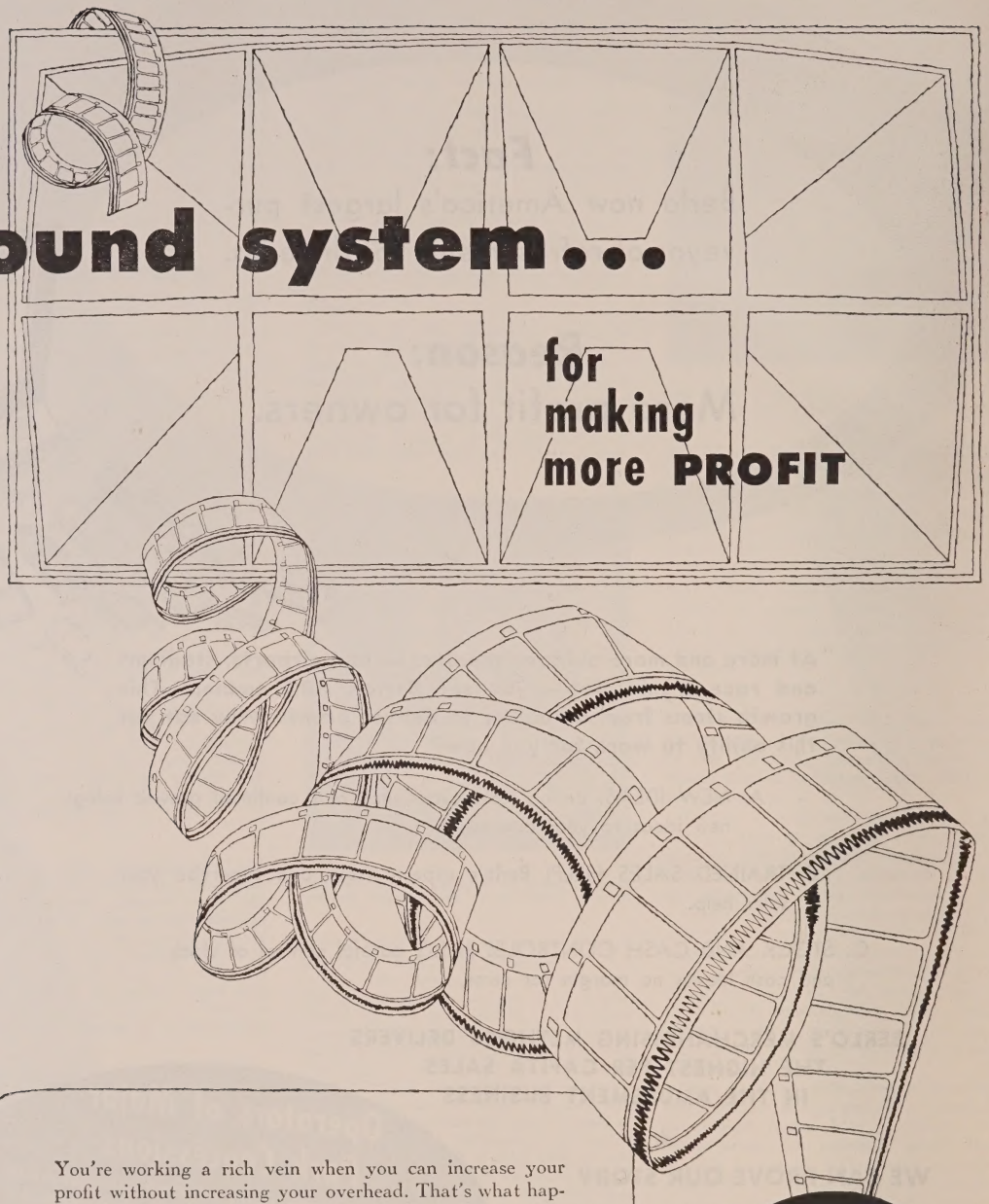

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TELEVISION and 16 mm. FILM

1955-56

Theatre TV Progress Report

A Review of the Progress Made in the Development of Closed Circuit Theatre TV Equipment and Programs, and What the Future Might Bring

By NATHAN L. HALPERN*
President, Theatre Network Television, Inc.

BRIEF: ***Although the development of improved methods of projection and sound took some attention away from closed circuit theatre television . . . this form of entertainment still holds a great deal that should be of interest to theatremen . . . This article . . . which was prepared by one of the leading pioneers in this still rather new form of communication . . . is a progress report on what has been going on in this field during the past few years . . . There are interesting and informative sections on the potential market . . . the various ways in which theatre TV has been . . . and is being used . . . and some indication of what can be expected in the future . . . Much of the article is devoted to a discussion of the equipment used to take and project a clear . . . and satisfactory picture on the screen of motion picture theatres.***

Closed-circuit television, now averaging one telecast per week, is growing into a major communications medium. Bringing special information, entertainment and sports to selected audiences, closed-circuit TV is contributing a positive television service wholly different from broadcasting. Sometimes known as the private life of television, closed-circuit TV is a powerful force in reaching selected audiences with drama and impact.

Substantial Growth

Little known a few years ago, it is estimated that more than four million persons have viewed closed-circuit television in the last few years, and that the public has spent more than five million dollars to see theatre television.

Company sponsors have spent over six million dollars in closed-circuit television business meetings. This corporate use of a relatively new medium suggests an important future for closed-circuit TV.

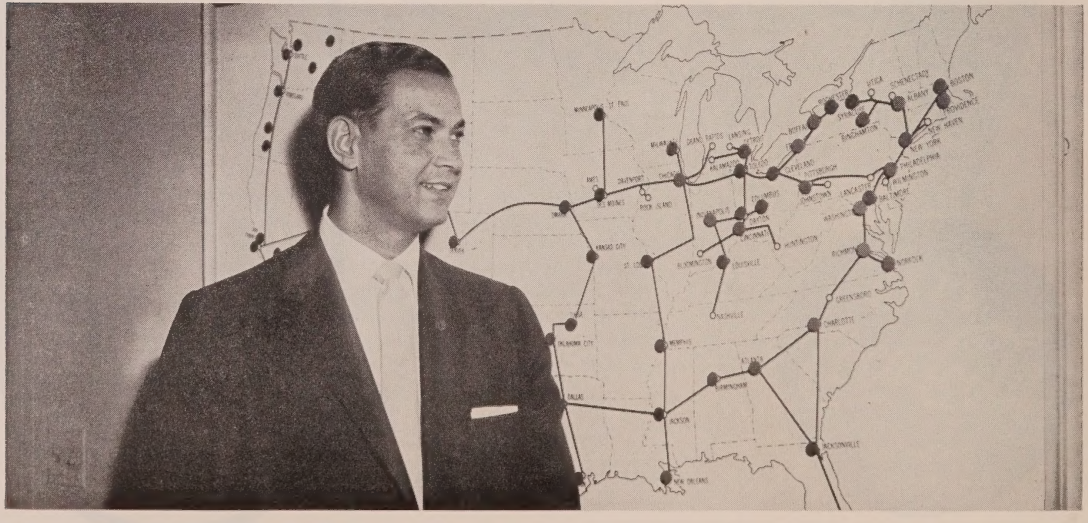
I am proud that our company, Theatre Network Television, Inc.—known to the trade as TNT—has presented 90 per cent of all large screen, closed-circuit television. A record of 71 theatres was established for the closed-circuit telecast of the second Marciano-Charles heavyweight championship fight last September, 1954. For the General Motors telecast commemorating the manufacture of its fifty millionth car last November, 1954, we established a record high of 52 hotels and auditoriums—the biggest mobile projection network ever organized.

Early closed-circuit television featured big theatre events such as championship prize fights, football, basketball and baseball games and outstanding entertainment attractions such as the Metropolitan Opera. Although some of these important sports and entertainment attractions have continued, they have not yet achieved more than a sporadic schedule. The expansion of this pay-as-you-see closed circuit function necessarily awaits the next growth cycle of big screen projection installations in theatres — which may be nearer than many suspect.

Tele-Sessions

Closed-circuit television for business meetings—what we call Tele-Sessions—offers an important continent-spanning communications system. Transporting corporate management and information rapidly across the electronic network, it saves time and money and brings company communications directly to large numbers of people who otherwise would be left out.

These business meetings have given rise to an entirely new concept of television distribution, resulting in national mobile networks. Since meeting places vary according to the client — hotels, theatres, auditoriums or plants — and since the cities for each client are different—we have developed a mobile network which goes where the client wants. This differs fundamentally from the structure of broadcasting networks whose station affiliates are in permanent locations. Necessarily, the development of a mobile Tele-Sessions network has brought with it new technical and engineering problems.



THE AUTHOR is seen standing by a map of TNT mobile networks where mobile projection units are permanently kept for use whenever needed.

**This article is based on an address presented by the author at the April, 1955 convention of the Society of Motion Picture and Television Engineers.*

THIS theatre TV projector is capable of presenting an image of 50 by 65 feet and is designed mainly for use in large motion picture theatres.

Proper Equipment

The first problem was proper big screen black and white projection equipment. There are 112 big theatre-type projection equipments, including a few intermediate film systems permanently installed in theatres located in about 50 cities coast-to-coast. This was the backbone of the early development of Tele-Sessions and was utilized to inaugurate the idea of closed-circuit television business meetings. In 1952, when Lees Carpets became the first company to utilize large screen, closed-circuit TV, they reached into 17 cities coast-to-coast and theatres constituted the basic network. Since then such companies as Dodge, Ford, Chrysler, National Dairy, Frankford Distillers and others have used theatres. Even then, it had been common to supplement the theatre cities by installing temporary mobile projection equipment in hotels and auditoriums.

The theatre network, convenient and available, gave birth to Tele-Sessions. But as the medium began to grow, it became apparent that the small size of many company audiences and the necessity in some cases for afternoon and evening meeting hours required other appropriate meeting places such as hotels.

The first nationwide hotel network was launched late in 1954, when General Precision Laboratory completed manufacture and delivery to TNT of the first quality projection equipments especially designed for hotels. These equipments were designed for ruggedness, mobility and quality. They consist of two parts: A control rack measuring five feet by two feet by two feet with the projector barrel seated on top and capable of appropriate tilting, and a high voltage supply. These combined parts weigh 570 pounds and are rendered easily mobile by their rollers. Accompanying this equipment is a portable screen and a sound unit for use where the hotel has none of its own.

This General Precision unit, labeled model PB-610, was built to use up to 40,000 volts and for easy plug-in to the electrical supply in any auditorium. Utilizing the Schmidt optics system, this projector has achieved excellent quality pictures ranging from seven feet by nine feet to nine feet by 12 feet in most of the work to date. It may be capable of even larger picture size with acceptable results. In some 300 hours of program performance in TNT closed-circuits, there has not been a single failure in part or whole.

Expanded Facilities

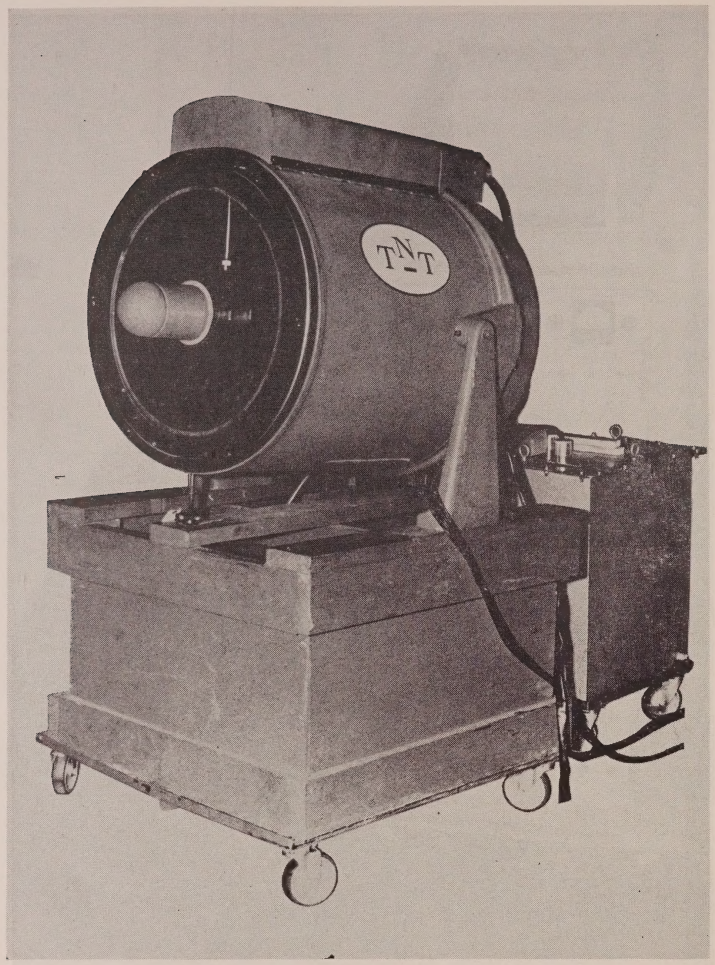
In addition, a large number of large theatre-size General Precision projectors, Model PB-600, were rendered mobile for special use to larger audiences. The development of the new quality equipment and the supplement of mobile, large theatre-size units has expanded the abilities of closed-circuit television, so that it is possible to offer the type of facilities and services important customers expect. Additional new projection equipment is now being built by other manufacturing concerns which too may meet quality closed-circuit standards.

The delivery of new projection equipment posed problems of servicing and operating in the field. Every closed-circuit telecast, excluding permanent theatre installations, is, in a sense, like going on location—with all the problems involved in operating in a new and strange place each time. On each separate occasion in each city there is problem of shipping the equipment to the designated meeting place, its reception, its check out, the connection of the equipment to the power supply, its firing up, the positioning of the screen and the projection equipment to accommodate the size of the audience, the survey of the audio system in meeting places which often have none, and ultimately, of course, the connection of the projection system to the telephone loop which, in turn, connects into the interexchange channels of A. T. & T. back to the point of origination.

Major national service companies have begun to develop experienced personnel capable of practical handling of such situations, so that each nationwide closed-circuit telecast now has a national army of servicemen who perform the field maneuvers required. The RCA Service Company and TNT entered into the first national service contract in closed-circuit TV last fall, and this method of field service has been so successful that recently others have followed.

Judged on Performance

Having established itself, closed-circuit television is now at a point where novelty and experimentation can no longer carry the day. More and more, closed-circuit TV is being judged by its performance on a practical and regular basis. Accordingly, the establishment of quality standards has become a neces-



THE TV projector has been designed for small theatre auditoriums. It is capable of projecting a maximum screen image of 15 by 20 feet.

sity in the closed-circuit television industry. It will be quality performance and service which will enable closed-circuit television to continue its great growth, and it is in this direction that the engineers and technicians have an important role to perform.

Unfortunately, some recent arrivals in closed-circuit television are operating on an agency concept of leasing inferior equipment, and without background or experience themselves, they are not contributing to the medium. Closed-circuit TV, no less than broadcast TV, requires know-how, judgment and experience—and a dedication to quality performance. The closed-circuit medium will become stabilized as a regular TV service, when the network concept of complete facilities and service become its guiding standards. To this end, TNT has organized the first owned and operated national network in closed-circuit TV by distributing its large screen TV projectors in 41 major cities. They are available for closed-circuit TV at all times. We believe that this network organization will lead to the continuous development and increase of quality standards.

Effective Integration Required

We have learned throughout the years that it takes effective integration of TV production, long line transmissions, loop connections and large screen projection to achieve the quality pictures and sound required in this medium. The lowering of standards in any one of these TV pipe lines deteriorates the program.

It has become necessary for closed-circuit television companies to develop special production techniques in the studio or on remote location. The lighting standards for large screen TV are different, for example, from broadcast practice, with much greater intensity and a tendency toward flat lighting. A monumental task was performed in relighting the entire stage of the Metropolitan Opera house last November when its opening night was televised closed-circuit coast to coast. 350,000 watts were brought in by TNT to light the great stage at the Metropolitan Opera House, compared with home television requirements of about 35,000 watts for a big musical studio production. This perhaps illustrates some of the difference in lighting.

The sensitivity of matching cameras is much greater for larger screen television. Although in the early days special grey scales were devised for matching cameras to be used for our theatre TV productions, we found such tests inadequate. Beginning in 1953, we instituted the procedure of matching cameras by monitoring on large screen projectors, rather than relying on the small control room pictures.

The skillful use of certain kinds of camera shots, with emphasis on the close-up and tight lenses, has developed as a standard practice for large screen productions. Since most camera crews are broadcast trained, it has become necessary to develop sufficient experienced large-screen supervisory personnel to guide the camera crews in appropriate telecasting for big screen TV.

With practice over the years, the telephone system has achieved better results in transmitting the originating signal. It is well known, however, that certain sections of the telephone system, particularly those involving the use of coaxial cable, do not produce generally as good transmission results for large screen as the micro-wave links.

There are still restrictive results for large screen signals when transmitted through the narrow four megacycle passageways of the long lines telephone system. And there remain definite bottlenecks in clearance and service for closed-circuit by the telephone companies, although this area is improving.

Future Developments

Primarily a growth situation itself, closed-circuit TV must continue to grow technologically too. The first commercially designed black and white large screen projection equipment of seven years ago should be updated in every theatre. Both the manufacturer and theatre operator are responsible for rendering this TV equipment completely modern.

With the increase in motion picture size, some theatremen believe that the theatre TV picture should be larger too, particularly for comparable entertainment attractions. This can and should be accomplished. More recently designed optics systems permit the projection of the world's largest television pictures. Among some of our mobile equipments are projectors which have exhibited TV pictures in drive-in theatres of 47 by 65 feet, with sufficient clarity and light for audience enjoyment.

As color TV progresses, large screen color projectors are expected. Some of the pioneering work in this field has produced fabulous prospects for further growth of large screen TV.

But the bright future of technological and business growth in closed-circuit television should not be dimmed by inferior quality performance today.

Large-Screen Color Television

An Analysis of the Research, Equipment and Operational Procedures Used in Development of a Successful Large Screen Color TV System

By Louis L. Evan and
R. V. Little, Jr.*
RCA Victor Division

BRIEF: ***Large screen color television has been demonstrated several times . . . and commercial equipment is now available . . . Various problems of colorimetry . . . optics . . . and electronics have been overcome and the resultant picture is adequate for theatre use . . . The technical features of the equipment used are outlined in this article . . . as well as application information . . . The projector described will produce a picture 15 by 20 feet . . . with good highlight brightness . . . It operates on the standards recently adopted by the Federal Communications Commission for color television broadcasting.***

A system for the projection of color-television pictures for theatre screens has now been developed by the Radio Corporation of America. Prototype equipments have been built which are an expansion of the present method of projecting black-and-white television in the theatres of the country.

During the period of theatre television growth, new film techniques have been introduced and have been responsible for some of the diversion of interest from theatre television. In the years of growth of the industry, there have been over 100 theatre installations made with a potential audience of over 250,000 persons. The potential revenue from an audience of this size places the medium in a position where it can compete for program material with the established networks of television broadcast stations. The usage of the medium is steadily growing, and notably in the sports field, theatre owners are able to bid successfully for the exclusive rights to telecasts.

Organizations have developed to provide the programming, and new engineering techniques have advanced to bring color and make theatre television competitive with other entertainment mediums. Television has the additional advantage of immediacy, which is its prime forte.

Theatre Color TV Introduced

In 1947 RCA demonstrated equipment for producing large-screen color-television images at a technical society meeting held in Franklin Institute, Philadelphia. The equipment demonstrated employed a three-channel simultaneous system using three camera tubes, one for each primary color, which were tied to three projection tubes in reflective optical systems. The resultant images were superimposed on the screen to produce the color picture. The system necessarily used a very wide band of frequencies to transmit three complete pictures simultaneously, and the next few years were devoted to reducing the channel width necessary for color transmission.

Results Demonstrated

The results of the intervening years of research were demonstrated to the public in 1951 at the NBC Colonial Theatre, New York City. The program was carried to the theatre from Radio City by coaxial cable of restricted bandwidth. The picture which was shown on a nine by 12 foot screen was enthusiastically received by representatives of the theatre industry, as well as the public.

Further refinements were made in 1952 and the prototype of the production equipment was built and demonstration installations were made at the Colonial and Bijou Theatres, in New York. The equipment produced a 15 by 20 foot picture, and the image quality was deemed commercially acceptable. The first pre-production sample lot of projectors was then built. The development of the large-screen color system was coincident with the evolution of the color standards recently adopted by the FCC for color television broadcasting.

Equipment

The projection equipment, which is shown in Figures 1, 2, and 3, was built by expanding the standard monochrome

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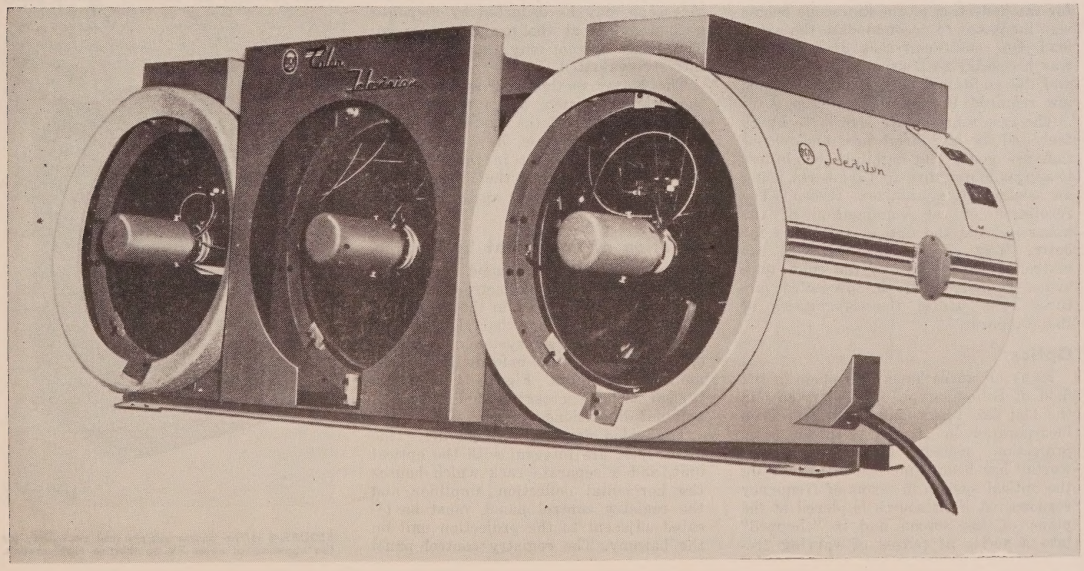


FIGURE 1 shows the projection barrel that is used in the large screen color television system designed and developed by RCA Victor Division.

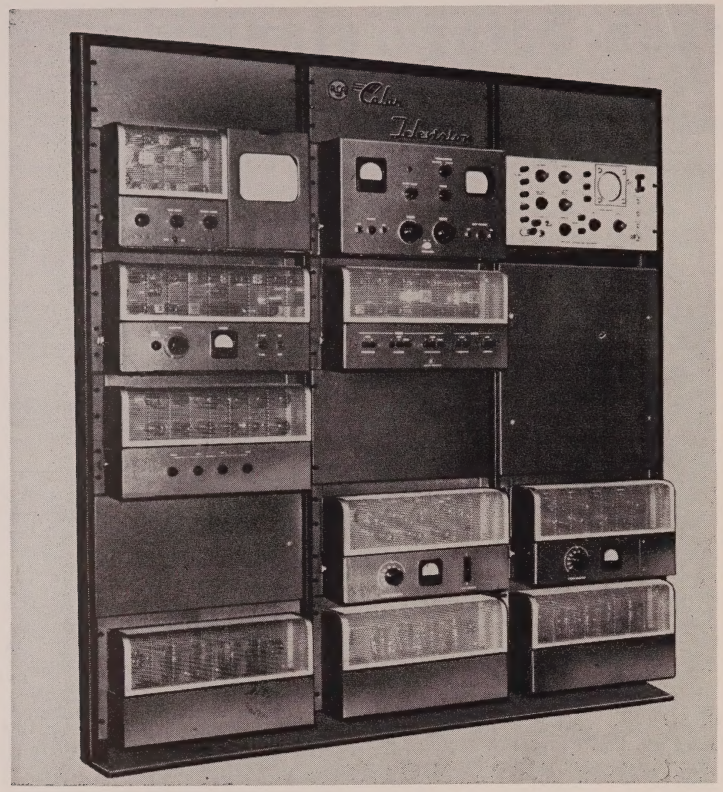


FIGURE 2 shows the projection equipment rack that would be used in a theatre. Basically equipment is built along the lines of a monochrome set.

RCA type PT-100-A projector. Since it is necessary to generate the color picture by using three primary colors to produce all the other colors, two more optical systems were added to the basic monochrome projection equipment. These included two video amplifiers to drive the extra kinescopes. The scanning power for the deflection of the kinescope beams was increased to accommodate the extra load. One additional rack of equipment was necessary to house the decoder unit and the additional power supplies which are required in the color system.

The resultant picture size is 15 by 20 feet, and the high brightness and resolution are good. The highlight brightness is approximately five-foot lamberts, using an embossed aluminized screen. The resolution of the combination of the kinescope and the optical system is far better than can be utilized with the restricted band width of the color television signal. Thus, the projected pictures fully utilize the capabilities of the standards.

Optics

Many advances have been made in the field of Schmidt-type optical systems in the last few years, and these have been incorporated in the large-screen color projection system. Particularly noteworthy has been a method of evaluating the optical system in terms of frequency response. A light source is placed at the plane of the screen and is "chopped" into a series of pulses of varying frequency. A photoelectric pickup tube is positioned at the plane of the kinescope face and the response of the optical system to the impulses is recorded on an oscilloscope.

Since the response of the optical system now can be accurately measured, the response directly on the face of the kinescope may be deducted by response measurements at the projection screen. The entire system may thus be quantitatively evaluated.

The better methods of evaluation of the Schmidt system and refinements in the calculations of the curvature necessary in the ogee lens have led to improved detail contrast in the projected pictures. For instance, the improvement at 300 lines is on the order of three to one.

Location of Equipment in Theatre

As in earlier monochrome equipment, the majority of the electronic components have been placed in the projection booth. The projection barrel with the three 26-inch optical systems is located on the face of the balcony as in the monochrome units. Figure 4 shows a typical theatre cross section with the nominal dimensions.

The video amplifiers which drive the kinescopes, are integral with the optical unit, and a separate rack which houses the horizontal deflection amplifier and the registry control panel, must be located adjacent to the projection unit on the balcony. The registry control panel provides the controls to adjust the size, linearity and centering of each of the three pictures. Since the controls included on this panel are used only during setup, it does not detract from the operation of the equipment that they are located at the projector position.

Third Major Item

The third major item of the system is the high-voltage power supply, which is physically the same as that used in the monochrome unit. The supply may be placed in any convenient location with no restriction on the distance which the output may run. Generally, a convenient small room can be found in the theatre which can be closed off and converted into a power room. A separate focus voltage supply is provided and likewise may be housed in the power room.

Figure 5 is a block diagram of the complete equipment. For simplicity, DC power supplies have been left off. Beginning with the signal selector, it can be seen that there are two line inputs. Either of the two of these may be chosen by means of a pushbutton switch on the front of the panel, and becomes the video input to the signal selector.

From the output of the signal selector, the video signal is taken through the video attenuator in the control panel. The output of the attenuator goes into the video imput of the decoder where it is processed into red, green, and blue video signals. The output of the signal selector is also fed directly into the color sync input of the decoder to provide the color synchronization of the picture.

Other outputs of the signal selector include horizontal and vertical sync for the deflection amplifiers, video and drive pulses for the monitor, and video to the oscilloscope.

The output of both the horizontal and vertical deflection amplifiers are channeled through the registry control panel

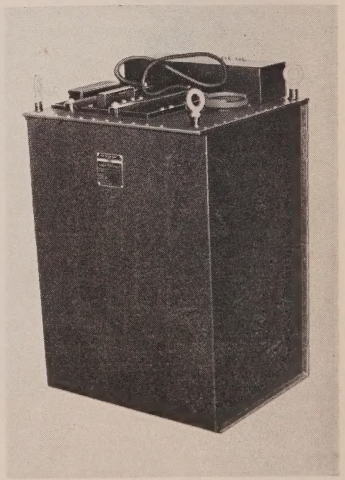
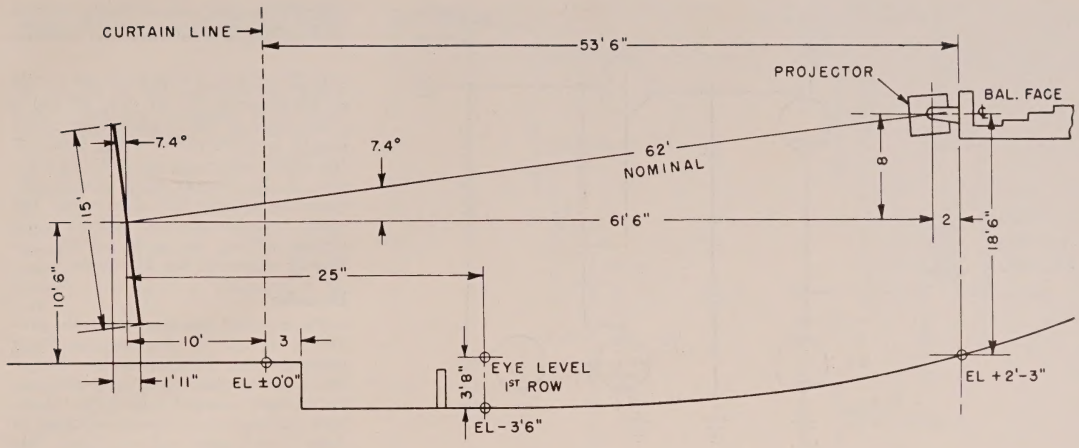


FIGURE 3 is the power supply unit necessary for the showing of color TV on theatre size screens.



THEATRE TELEVISION
TYPICAL INSTALLATION
SCREEN 15 X 20 FEET
PROJECTION THROW 62 FT.

where they are corrected for size and linearity. Centering voltages are also added to them in the registry control panel.

The high voltages for the operation of the kinescopes is provided by two power supplies, one of 80,000 volts and one 20,000 volts. The output of the 80,000 volt supply is regulated and remains constant, and the output of the 20,000 volt unit supplies the focus anode voltage for the kinescopes, and is remotely variable from the registry control panel.

High Voltage Power Supplies

The 80,000 volt power supply is capable of supplying 16 ma regulated to within less than 500 volts. The regulation is necessary to maintain registration over varying amounts of current in the kinescope; without regulation the output voltage would vary as a function of the current. Since the electrical centering currents are constant in the deflection yokes once they have been originally set up, and may be different in all three yokes, any change in the ultor potential which changes the deflection sensitivity will change the centering of the three images.

The regulation of the high-voltage supply constituted a major problem in the design of the equipment, but was solved by employing a combination of series and shunt regulation. The circuit schematic is shown in Figure 6.

A sample of the output voltage is taken through a resistance voltage divider and amplified in tube V1. The output of V1 is in turn amplified by the specially designed V3 which is capable of withstanding the full 80,000 volt output. The current through V2 supplies part of the regulation, and also drives the grid of V3 which is the series regulator.

The regulation system for the high-voltage power supply will compensate for changes in load, variation of line voltage, and hum in the output of the unregulated portion of the supply.

The 20 kv power supply schematic is given in Figure 7. The supply has three separate outputs for the focus anodes of the three kinescopes. The outputs are independently variable so that each of the tubes may be focused individually. Regulation is also provided on this unit to hold the outputs exactly at the required values.

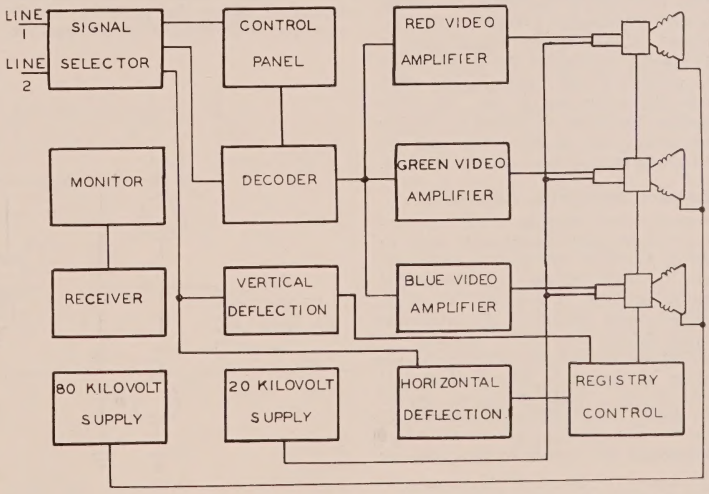
Regulation is necessary to maintain the proper relationship between the ultor voltage and the focus anode voltage for good focus. The regulation also prevents interaction between the three focus anode voltages as they are varied through their range.

Video Amplifiers

The video amplifiers are essentially the same as for the monochrome projectors, with the exception that the requirements for linearity are more stringent. In monochrome television amplifier nonlinearities change the gray-scale rendition of the picture, but in the color system the distortion which would occur in the colors would be very noticeable.

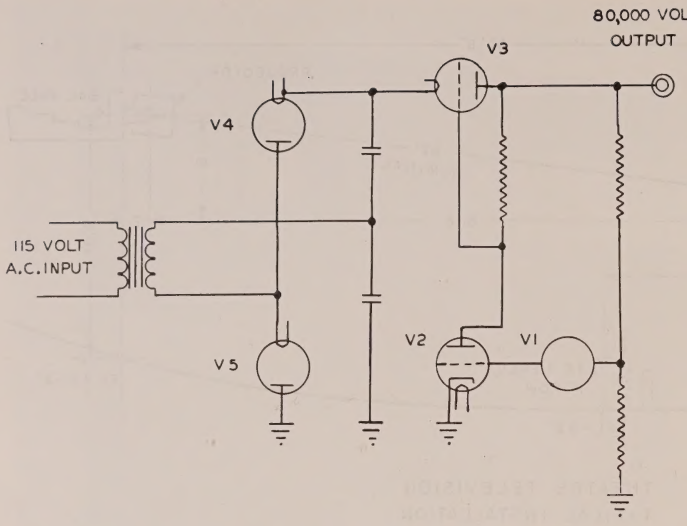
Deflection and Registry Control

The deflection circuits of the color large-screen television projector are conventional, but the power required from them is three times as much as was



SYSTEM BLOCK DIAGRAM

FIGURE 5 is a block diagram showing the complete equipment as it would be set up for operation.



80 KILOVOLT POWER SUPPLY

FIGURE 6 is a circuit schematic showing how high voltage supply problem was solved by employing a combination of series and shunt regulation.

used in monochrome systems. The three yokes are driven in parallel in both the horizontal and the vertical case. With the yokes in parallel it is more convenient than in series operation to add control and correction circuits and prevent interaction between them.

Figure 8 shows the registry control panel circuits. It may be seen that control is provided for size, linearity and centering in both the horizontal and the vertical yoke circuits for all three tubes. In addition skew is added in the vertical direction for two of the yokes. Three additional controls are provided in the vertical circuits for "top line" linearity. They are the adjustable coils in the vertical section and affect the first few lines at the top of the picture area. With proper adjustment of the controls included on the registry control panel it is possible to register the three images to within one half television line width over the entire picture area. Once the picture has been registered no further attention to the controls is necessary until a tube or other component is changed.

Require Infrequent Adjustment

Some other controls which only require infrequent adjustment such as focus, kinescope G2 and kinescope G1 are included on the registry control panel. In order to maintain the proper color balance throughout the brightness range it has been found necessary to adjust the gamma characteristic of the three kinescopes by means of the G1 and the G2 voltages which are applied to them. Since different amounts of video drive are applied to the three kinescopes due mainly to the difference in efficiency of the three phosphors, the three tubes are operating on different portions of their characteristic curves which give them effectively different gammas. The proper setting of the G1 and G2 controls will alter the operating characteristics sufficiently to maintain equivalent gamma characteristics over the operating ranges of the three tubes.

The methods of protection of the kinescopes in the event of scanning failure become increasingly important in the color system since there are three expensive kinescopes involved. The protection system will prevent damage to the kinescopes in the event of open or shorted deflection yokes, loss of drive to the deflection amplifiers, and loss of power supply voltages to the deflection amplifiers. When the protection circuit operates to protect the tube, a negative voltage is applied to the G1 and the G2 of the kinescope to cut them off and a relay opens in the high-voltage power supply interlock circuit which turns off the 80,000-volt anode potential. In addition to the circuits which protect the kinescope against loss of scanning, another protection circuit protects them against driving the grids positive and thereby damaging the kinescopes.

Decoder

The heart of the color-television projection system is the decoder which separates the color information out of the incoming video signal and combines it in proper proportion with the brightness information in the video signal to form the red, green and blue signals. The red, green and blue outputs drive the three kinescopes.

The color video signal consists of a brightness component and a simultaneous pair of coloring components transmitted as the amplitude modulation sidebands of a pair of suppressed subcarriers. These have a common frequency of 3.579545 mc. The total frequency spectrum is 4.2 mc as shown in Figure 9. The pair of coloring components may be the so-called "I" and "Q" signals and have the band limits of 1.3 mc and 0.5 mc respectively.

In addition to the brightness and the chrominance portions of the signal the standard synchronizing and blanking signals are included. The "back porch" of the horizontal blanking signal has been modified to include the color reference burst which is eight cycles of the 3.58 subcarrier. In Figure 10 it may be seen that the composite video is fed into the decoder through two inputs. Input 2 is directly from the incoming video line and input 1 is the output of the video attenuator on the conrol panel which varies the brightness of the picture on

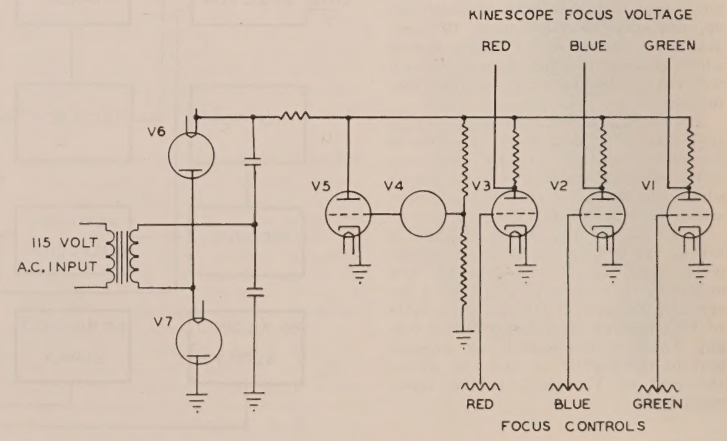
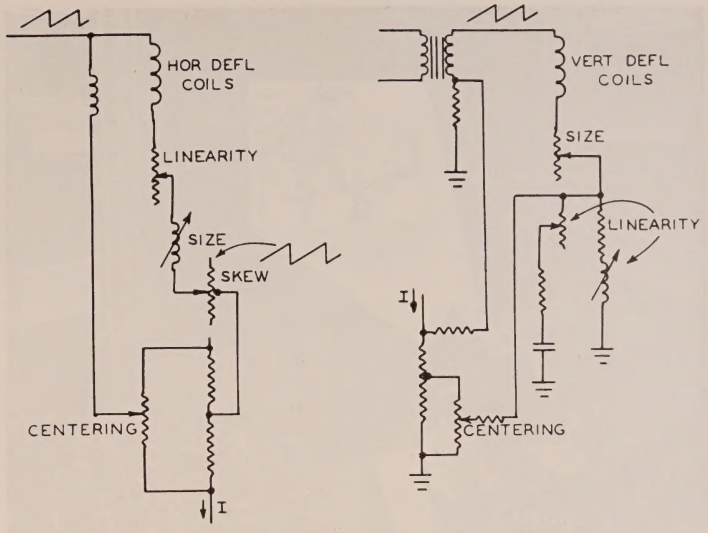


FIGURE 7 is a diagram showing a schematic of the 20 kv power supply. The supply has 3 separate outputs for the focus anodes of the 3 kinescopes.

20 KILOVOLT POWER SUPPLY

FIGURE 8 illustrates the registry control panel circuits. Control is made for size, linearity, and centering in yoke circuits for three tubes.



REGISTRY CONTROL CIRCUIT - ONE CHANNEL

the screen. The second input does not go through the attenuator so that maximum signal may be applied to the color synchronizing circuits at all times.

From input 1 the video signal goes to the "M" or brightness channel and corresponds to the picture information in the conventional black-and-white television signal. As the signal passes through the M channel it is filtered to remove the information which is contained in the signal as sidebands of the 3.58 mc subcarrier.

The filter is unique in that it provides high attenuation at the subcarrier frequency and yet maintains excellent phase characteristics in the region near cutoff. After cutoff the response rises again so that on a monochrome picture input full use of the projection system capabilities may be realized.

After filtering, the signal in the M channel is aperture corrected to emphasize the high-frequency information in the signal and provide sharp transition edges in the projected picture. Again the method employed provides linear phase characteristics and maintains good transient response throughout the system.

The output of the M channel is fed to the matrix section where it must arrive in time coincidence wih the color components of the signal. A fixed amount of delay is provided in the M channel to accomplish this.

Input 1 is also the source of signal for the chroma channel. The color information is retained and the monochrome information is prevented from passing through the chroma channel. The output of the chroma channel is applied through the chroma gain control to the I and Q demodulators.

In the demodulators the color portion of the incoming signal is combined with the reference subcarrier which is derived from the burst, and the modulation products represent the I and Q components of the system.

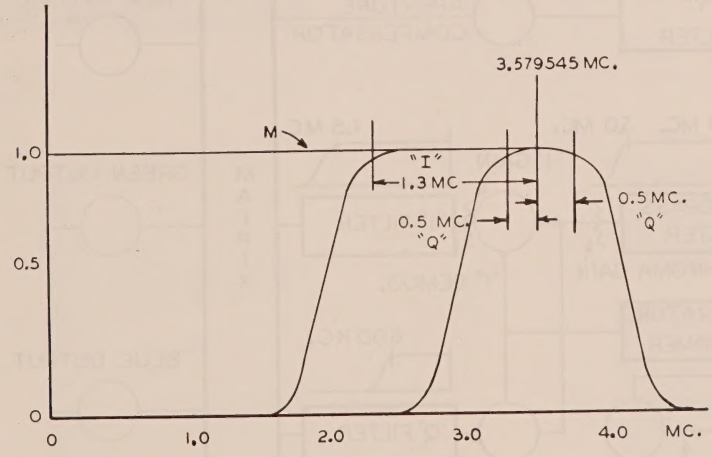
The outputs of the I and Q demodulators are restricted in bandwidth to 1.5 mc and 600 kc respectively.

The M, I and Q signals are added together in the matrix in the correct proportions to reconstruct the original red, green and blue video signals from which the composite signal was made at the point of origin. The matrixed outputs are amplified and applied to the red, green and blue kinescopes through amplifiers in the optical barrel.

OPERATION

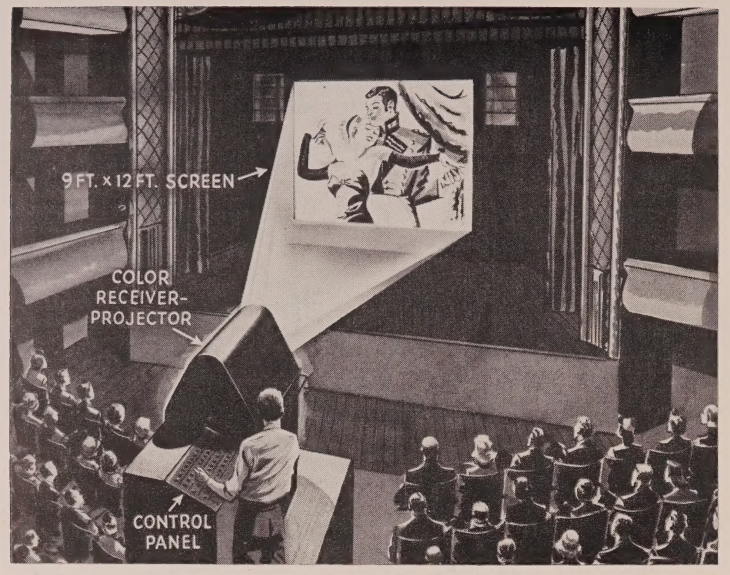
After the adjustments of the optical system have been made, the three kinescope images may be registered. The registration is preferably done with a dot pattern which supplies a field of small dots two television lines high and approximately the same width. The field should be composed of about 15 lines of dots in the vertical direction and about 15 lines of dots in the horizontal direction. With the corresponding red, green and blue dots aligned adjacent to each other in the horizontal direction, the vertical size and linearity of each of the three kinescope pictures may be adjusted to match. Then, with the dots displaced in the vertical direction the horizontal size, linearity and vertical skew may be matched. With the centering controls the three dot images are then superimposed to form one field of white dots. The registration is then complete. A certain degree of skill is required to adequately register the picture, but it can be acquired with little practice.

As has been discussed before, the three kinescopes will be operating over slightly different portions of their characteristic curves and will require compensation to obtain good color fidelity from low-brightness to high-brightness pictures. The compensation is accomplished by means of the G1 and G2 control circuits. While observing the projected picture in monochrome at low and high brightness the first and second grid voltages are adjusted to correct the errors in the shades of gray obtained. In this way the three kinescopes are matched and require no further adjustment.



SPECTRUM OF THE COLOR SIGNAL

FIGURE 9 shows the spectrum of the color signal used in the large screen TV system. The total frequency spectrum is 42 mc, as can be seen here.



AN ARTISTS sketch showing one of the earlier RCA research models of a large screen color TV set, and how it would be used in the theatre.

The next step in the operation of the color projection system is to adjust the color circuits. The phase of the synchronizing channel may be adjusted with any of the standard color bar signal inputs. The adjustment is made by observing the detected I and Q signals in the decoder with the oscilloscope which is provided in the equipment. The chroma and I gain controls may be adjusted by observing the red, green and blue outputs on the decoder.

The above procedures are necessary only when a complete check of the equipment is indicated or when a kinescope or other element of the system has been replaced. Normally a visual check of the projected picture will indicate any drift and only touch-up will be necessary. All of the operating controls are located on the control panel in the projection booth and they are few to provide the maximum ease of operation. The control panel provides (1) a-c control for the low-voltage circuits and the high-voltage power supplies; (2) oscilloscope for checking signal levels; (3) metering for the kinescope ultor voltage; and (4) level controls for the video and audio.

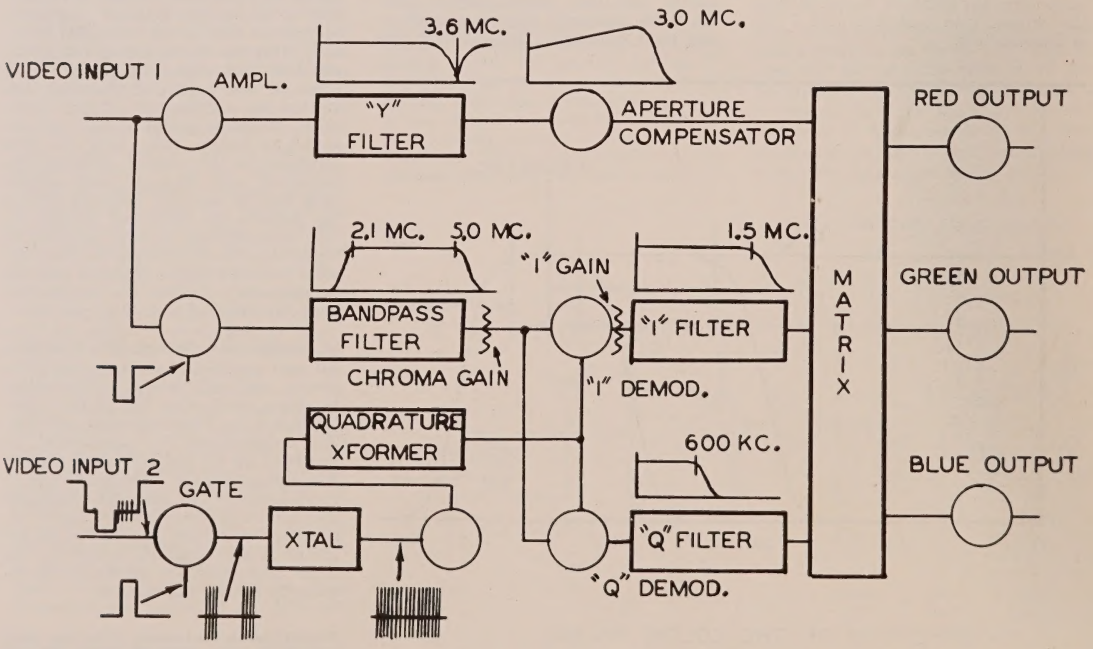
FIGURE 10 shows that the composite video is fed into the decoder through two inputs. Input 2 is from incoming video lines, and input 1 is the output of the video attenuator on control panel.

Commercial Aspects

At the present time there is one commercial installation of the RCA PT-100-3C color projection system in the NBC color studio in Brooklyn, New York. Several others are contemplated in the near future as more programs and applications present themselves.

Closed circuit use of large-screen television would be greatly benefited in its future development by alteration of its signal standards to gain more bandwidth. Due to the extreme size of the picture a more critical view of the picture is obtainable and it may be seen that wider bandwidth in the picture would improve it.

The optimum transmission bandwidth for a future system would be on the order of 7 or 8 mc which has been accomplished experimentally on microwave relay equipment and coaxial cable installations.



Fleetwood Theatre TV

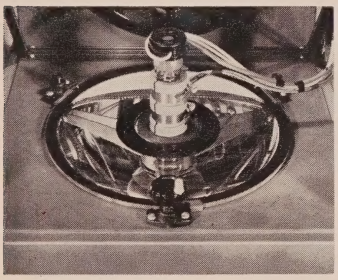
A Description of a New Theatre Television System That is Particularly Suited for the Small Theatre

The boxoffice value of theatre television has been demonstrated time after time, with the recent Marciano-Moore heavyweight championship fight contributing heavily to making this bout the second highest grosser in the history of the ring, and giving another indication of the potential market.

Although the emergence of the wide screen systems, stereophonic sound and the other technical advances was of great benefit to the theatre industry, it was unfortunate that the activity involved in making these changes caused a temporary halt in the installation of theatre television equipment, and the improvement of that equipment. With the excitement and newness fading, it appears that theatre TV will once again become an active force in theatre programming.

For Small Theatres

The large indoor and outdoor theatres, of course, have the space, resources and demand for the biggest and most expensive equipment. However, with the recent introduction of the Fleetwood television projector, the small exhibitor is now able to show theatre TV to his audiences, and with no sacrifice in quality.



PROJECTION tube and Schmitt optical lens assembly used (above). The tuner control panel and speaker grill employed is illustrated (below).

BRIEF: *After having been stunted in its growth by the flood of technological advances made in projection and sound systems for motion picture theatres . . . theatre television is once again making itself felt as a boxoffice attraction . . . Because of the equipment necessary . . . theatre TV has been mostly restricted to the large center city theatres . . . This article describes a new theatre TV system that is geared for the smaller theatre . . . There is a description of the system . . . the various component parts . . . and the advantages of the system . . .*

The Fleetwood projector is capable of showing a 9 by 12 foot picture at a distance of 22 feet. It is designed to be used with a direct video feed, such as closed circuit programs offer, or a live pick-up from private TV cameras, which might be used as a tie-in with local industry or commerce. The unit contains its own tuner which will picture and project TV signals available in the area. A high fidelity 10 inch speaker is contained in the front panel, with an external outlet jack for feeding remote speakers of the available sound system.

The projector is housed in a functional heavy-duty bonderized steel cabinet, and is painted in an attractive two-tone gray. Large rubber tired casters add mobility to the unit, and increase the number of ways and places in which this projector may be utilized.

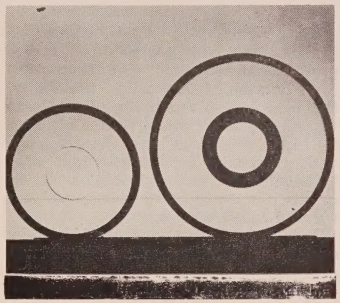
Simple to Operate

Designed to be operated as easily as a home TV set, this unit features simplicity of controls. All-channel selector, brightness and contrast controls are all uniform. A line tuner control is used for "off-the-air" or closed circuit program selection.

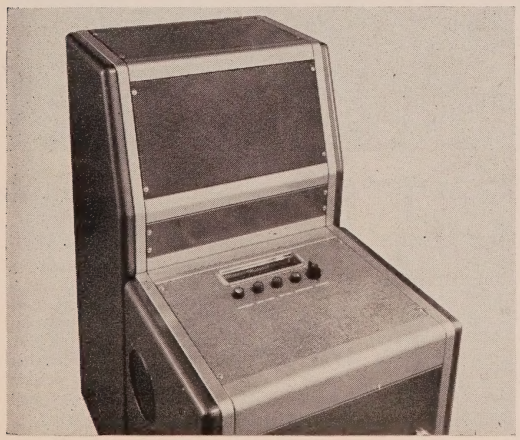
The system contains a combination 27 Kv and 40 Kv power supply. The availability of projection tubes governs power used. Spherical mirror and position of kinescope are clearly indicated.

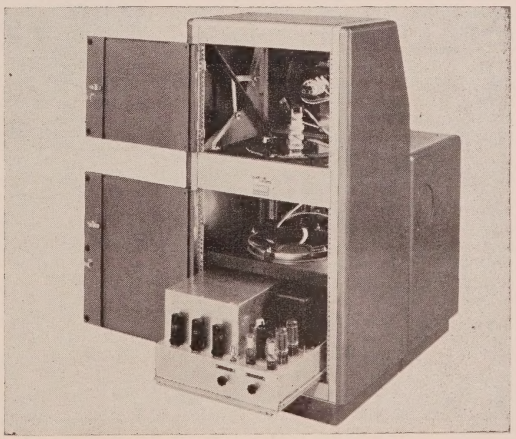
All the units are mounted on sliding drawers for quick service of the power supplies, amplifiers, and video equipment. Locks on each door make the projector tamper-proof, and there are no external parts when the unit is closed and ready for storage.

The overall size of the Fleetwood projector is 24 inches wide, 36 inches deep and 48 inches high. The shipping weight is approximately 400 pounds.



THE IMPROVED 12½ inch Schmitt lens (above) is on the right compared to old size. The projector (below) with power supply unit exposed.





The Victor 16mm Portable Arc Projector

The New Victor 1600 Arc 16mm Sound Projector Has Many Features That Make It Suitable For Professional Use

BRIEF: *Especially adaptable to road-show work . . . or other purposes where portability is an important feature . . . the new Victor 1600 arc 16mm sound projector is a modern . . . and functional addition to the line of excellent 16mm projectors currently available.*

This article offers a thorough study of the component parts of this projector . . . It has been so constructed that it may be broken down into three pieces . . . the rectifier . . . the bass-reflex speaker which serves as a carrying case for the projector head . . . amplifier . . . and accessories . . . and the third part, the lamp house . . . The manufacturer states that this unit may be fully assembled and put into operation in less than five minutes . . . and will deliver a 57 minute show using only one set of carbons operating at 30 amperes . . . A number of new features and innovations have been built into this machine . . . and they are fully explained in this article.

The Victor 1600 Arc Projector is designed as a truly portable unit to give professional projection with 16mm economy. Because of its extreme portability, the 1600 Arc is especially adaptable to roadshow work or wherever the ultimate in 16mm projection must be combined with traveling. This lightweight, easy to handle unit assures superior picture quality for every size audience and unexcelled sound reproduction.

It is ideally suited for small drive-in, small theatre, school, church, and business use where simplicity of operation and maintenance are important factors.

The Victor 1600 Arc offers three-part portability:

1. **Rectifier Stand.**
2. **Bass-Reflex Speaker, which serves as carrying case for projector head, amplifier, and accessories.**
3. **Lamp House.**

The combined weight of these three units is only 210 pounds.

Due to ingenious basic design, set-up for operation is accomplished in less than five minutes. Illustrating the compactness of this unit, it requires less than four square feet of floor space.

The rectifier stand is equipped with swing-out legs having built-in levelers for set-up on uneven floors. The amplifier projector head assembly is snapped into place over lock tilt bars on the rectifier by means of a single-pull spring-loaded mounting lock. The arc lamp is then mounted to the amplifier by inserting its feet into keyed slots in the amplifier and locked into place by a simple and positive snap latch. The low center of gravity of the rectifier stand with additional stability afforded by the swing-out legs provides excellent mechanical stability for the complete unit. Cables for the rectifier and amplifier are keyed with polarized plug connectors to eliminate possibility of improper electrical connections. Thus, in less than five minutes, the 1600 Arc is set-up and in operation.

Outlined here are features and specifications of the projector components.

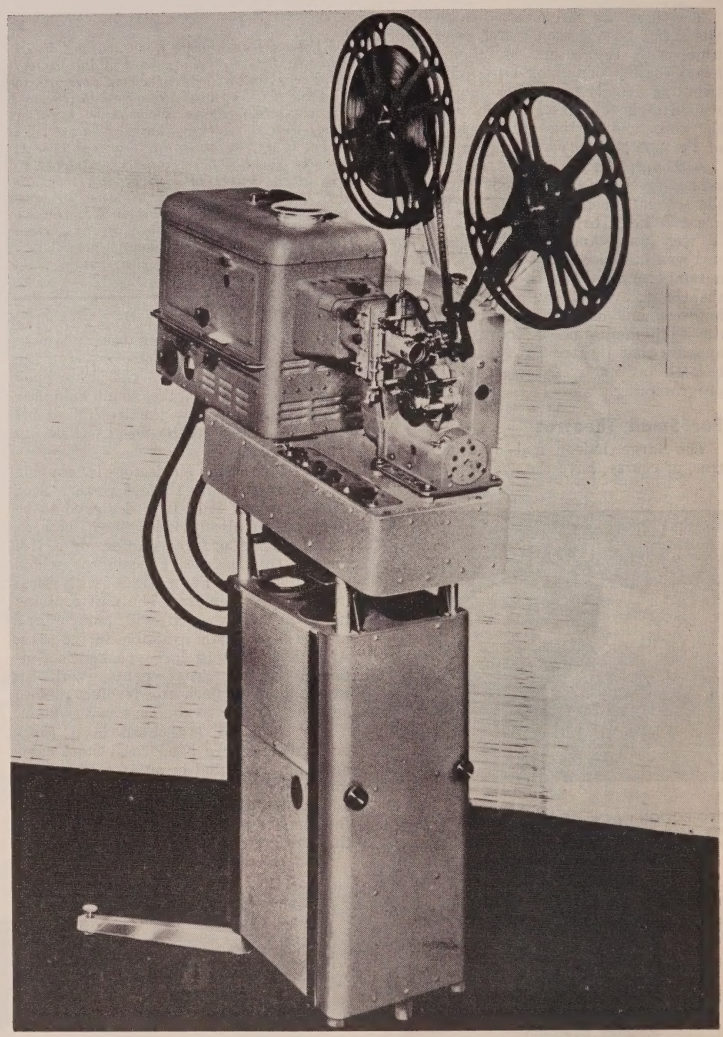


FIGURE 1 is the Victor 1600 Arc set up and ready for action. This 16mm projector is said to be easy to handle and lightweight. The combined weight of the unit's three main parts is only 210 pounds.

Rectifier

The rectifier stand is designed to provide comfortable carry handles at a suitable height for convenient portability. The base features three-point support for quick set-up on uneven floors. Telescoping extensions of handles raise projector amplifier unit to desired set-up height and lock front and rear to give accurate picture centering.

Line voltage of 105-125 V., 60 Cycles A.C. is converted into 28 Volt, 30 Ampere D.C. at the arc by a single phase full wave rectifier by use of two 15 ampere Tungar bulbs. A choke of adequate proportions is included in the rectifier circuit to completely eliminate light flicker from this source. The control panel, illuminated from above for easy readability in the dark, makes it possible to properly operate rectifier at available voltage. Components of this panel are:

1. **On-Off Circuit Breaker Switch.**
2. **Line Voltmeter.**
3. **Voltage Selector Switch.**
4. **Eight Position Output Tap.**

The On-Off circuit breaker switch serves the purpose of acting as built-in overload protector preventing blowing of line fuse or damaging equipment in the event of improper handling of the arc. The line voltmeter is used in conjunction with the voltage selector switch. For units designed for portability, it was deemed necessary to have the readily accessible voltage selector to assure maximum and constant operating efficiency of the rectifier at all incoming voltages. The eight position output tap provides graduated means for perfectly supplying direct current lamp requirements. The unit is blower cooled to provide for efficient rectifier operation and longer rectifier tube life.

Projector Mechanism

The projector mechanism is the same basic unit which has served the armed forces and is serving audio-visual programs around the world. Necessary modifications to accommodate adaption for arc use were made. The rear housing was redesigned to allow the full discharge of motor blower to be directed against the aperture and baffles for cooling the mechanism. A manually operated dowser automatically actuates the drive motor when opened, assuring full safety when arc lamp is lit. A separate motor switch is adjacent to the dowser for use when dowser is closed. All metal components exposed to direct arc light have been increased in thickness and weight and are polished and plated to reflect heat. The unit is available in either single-speed two-interruption or silent-sound three-interruption mechanism. The single-speed two-interruption unit can project 1600 lumens at 30 amperes, 28 volts with the optical system adjusted for 70 per cent side to center distribution. The silent-sound speed three-interruption unit can project up to 1300 lumens.

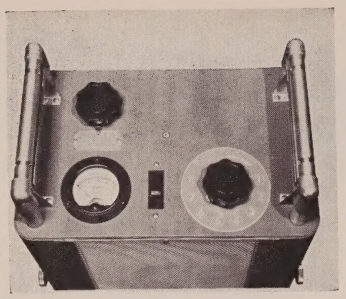


FIGURE 2 shows the rectifier top mounted controls. These controls are lighted from above.

Safety film trip, a standard Victor feature, automatically stops the projector in case of film emergency, preventing film damage.

Fingertip motor rewind is also a standard Victor feature allowing rewinding without changing reels or belts.

The sound drum with its wide scan lens system assures full fidelity from the film sound track. This unit is removable and the Victor Magnesound attachment for use with magnetic film may be utilized with no physical modification of the unit.

Amplifier

The amplifier is a heavy duty unit designed to deliver 20 watts with a minimum of distortion. At this level the harmonic distortion is less than two per cent and the intermodulation less than 10 per cent using the SMPTE method. Higher output levels are possible without exceeding the normal five per cent distortion limits.

The equalization is such as to provide optimum results with phonograph and microphone inputs. Separate input jacks and a microphone volume control are provided which will allow mixing of program material when using as a public address system.

The output curve, when operating from film input, is approximately that recommended by the SMPTE for 16mm optical reproduction.

A dual tone control provides for considerable change in frequency response. A bass boast of approximately 15 db is available or the high frequency curve can be rolled off sharply. The amplifier supplies 15 to 20 db surplus gain when operating from normal optical recordings. The "split-load" type of phase inverter is used to insure constant balanced input to the power stage. Liberal use of feedback is responsible for the excellent frequency response and low distortion. A tapped output transformer provides proper impedance matching of either one or two eight ohm speakers. All controls are grouped together at a point convenient to easy operation.

A fused convenience outlet is included on the amplifier chassis to provide power supply for electrical changeover, Magnesound attachment, phonograph or other similar devices.

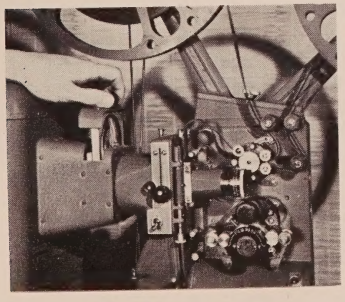
Lamp House

Design of a portable arc dictated that a lamp house be proportioned shorter and lighter than conventional existing units. The 1600 unit was shortened by using a condensing lens in combination with the conventional elliptical reflector. Working distance for the reflector alone is 25 inches. The combination of reflector and condenser reduces this working distance to approximately 17 inches. The optical speed of the combination is F/1.6 matching with fastest conventional 16mm projection lenses. The reflector is provided with horizontal and vertical focus adjustments.

Carbons required are Pearlex positive 6mm dia. by 8½ inches long and negative 5mm dia. by 6½ inches long. Carbons are automatically fed by motor drive. Adjustable motor speed control is provided. Hand controls, override and motor controls for carbon alignment. starting and manual adjustment.

An arc imager is conveniently placed adjacent to hand controls. An illuminated ammeter is provided for reading the arc current. A mercury switch actuated by opening of the door interrupts primary current to rectifier to provide complete operator safety. The condensing lens is easily removable for cleaning and provision is made to include heat filters on the lens holder.

For continuous dual operation, a push-button electrical changeover switch is available.



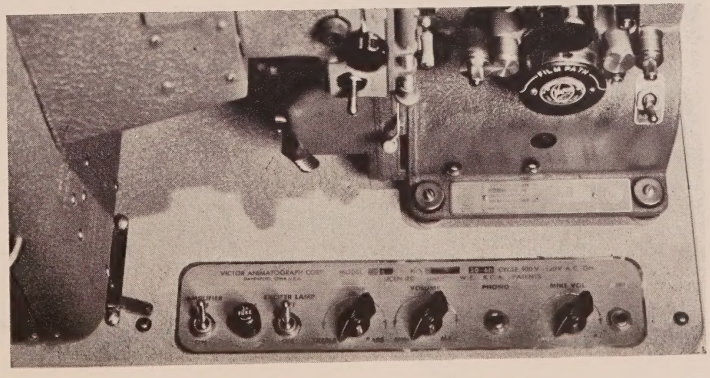


FIGURE 3 (above) shows the projector mechanism with safety film trips. Figure 4 (right) is view of neatly grouped amplifier control panel.

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